Political Conflict, Community Forest Governance and Local Livelihoods in Nepal

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For my parents

Father Sri Chiranjibi Adhikari

and

Mother Smt. Tulasa Devi Adhikari

DECLARATION

I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution

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ABSTRACT

Nepal is one of the world's richest biodiversity hotspots with varied climate, geography and ecosystems. The majority of people in Nepal's hills and mountains still depend heavily on forest resources for their livelihood and wellbeing. However, since the breakdown of the traditional system of forest management and the nationalization of forests in the mid 1950s, Nepal's forests had undergone severe degradation and deforestation. In addition, political instability, illegal clearing, expansion of agricultural land and resettlement policy were also responsible for degradation. The deforestation was so rapid that between the period of 1964 and 1975, 2.3 million hectares of forests were lost and the livelihoods of people in the hills and mountains of Nepal were on the verge of collapse. Since the popularization of the theory of Himalayan Environmental Degradation and realization on the part of government of the urgency of restoring and improving the condition of Nepal's forests, a number of conservation projects were launched.

In 1978, the government of Nepal initiated the community forestry program through the enactment of the Panchayat Forest and Panchayat Protected Forest Rules. These were further strengthened by the endorsement of the 1989 Master Plan for the Forestry Sector (MPFS) and enactment of the1993 Forest Act and 1995 Forest Regulation. The community-based forest co-management initiatives in Nepal transferred forest management authority to local community user groups. However, since the onset of the Maoist insurgency in 1996 and subsequent armed conflicts over the next decade, the community forestry program in Nepal was under threat. It was not known what happened to the community-based forest co-management arrangements during the period of insurgency due to restricted access to the countryside.

Through a comparative case studies of three Community Forest User Groups (CFUGs) with three different conflict settings (the first controlled by neither of the contending parties, the second under the control of security forces and the third under the control of the Maoists) in Kavrepalanchok district in the Middle Hills

region of Nepal, this research investigates the effectiveness of CBFCM in strengthening local forest governance processes and outcomes. It focuses particularly on equity in access and benefit sharing, the participation of different socio-economic strata in forest governance, and the provision of environmental services within these communities during pre/early and late conflict periods.

This research shows that the community forestry program has provided a significant space to local communities for collective action that enabled them to reverse the trend of forest degradation, improving the environmental condition of the forests and the supply of forest products. Over time, the community forest program has been successful in gradually building the capacity of CFUG institutions and has increased the involvement of women and other marginalized sections of the community. Through the expanded networks among CFUGs and with the assistance of outside organizations, these communities have now attained considerable influence in national forest policy formulation. This study confirms that although the governing mechanisms of state agencies, including the Department of Forests (DoF), became dysfunctional during the period of armed insurgency, governance structures of the local CFUGs in the case study villages were largely stable and most forest management activities were carried out during the period of armed conflict. The CFUGs have survived as vibrant self-governing institutions and have maintained reasonable access to forest resources to satisfy the subsistence needs of local people within the community. These findings suggest that community-based forest governing institutions had the bargaining capacity and ability to overcome the pressures arising from the armed conflict because of the resilience and adaptive capacities of the CFUGs.

Key words: Co-management (CM), community-based natural resource management (CBNRM), Community-based forest co-management (CBFCM), governance, and community forest user groups (CFUGs).

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ABBREVIATIONS AND ACRONYMS

ACM	Adaptive Collaborative Management
ADB	Asian Development Bank
AusAID	Australian Agency for International Development
CBD	Convention on Biological Diversity
CBFG	Community-Based Forest Governance
CBFM	Community-Based Forest Management
CBM	Community-Based Management
CBNRM	Community-Based Natural Resource Management
CBOs	Community Based Organization
CBS	Central Bureau of Statistics
CFUGs	Community Forest User Groups
CIFOR	Centre for International Forestry Research
CM	Co-management
CPN (M)	Communist Party of Nepal (Maoist)
CPN	Communist Party of Nepal
CPRs	Common- Pool Resources
DDC	District Development Committee
DFCC	District Forest Coordination Committee
DFID	Department for International Development, UK
DFO	District Forest Office(r)
DFRS	Department of Forest Survey and Research Centre
DNPWC	Department of National Park and Wildlife Conservation
DoF	Department of Forest
EC	Executive Committee
FAO	Food and Agriculture Organization of the United Nations
FECOFUN	Federation of Community Forestry Users Nepal
FY	Fiscal Year
GA	General Assembly
GDP	Gross Domestic Products

GoN	Government of Nepal
HDI	Human Development Index
INGOs	International Non-governmental Organizations
IUCN	International Union for the Conservation of Nature and Natural Resources
MoFSC	Ministry of Forest and Soil Conservation
MoHP	Ministry of Health and Population
MPFS	Master Plan for the Forestry Sector
NACFP	Nepal Australia Community Forest Project
NACRMLP	Nepal-Australia Community Resource Management and
NC	Nepali Congress
NGOs	Non- governmental Organizations
NRs	Nepali Rupees
NTFPs	Non-Timber Forest Products
ODA	Overseas Development Agency
PAC	Prolonged Armed Conflict
SPA `	Seven Party Alliance
ULF	United Left Front
UN	United Nations
UNDP	United Nations Development Program
USAID	United State Agency for International Development
VDC	Village Development Committee
WECD	World Commission on Environment and Development
WHO	World Health Organization
WWF	World Wildlife Fund

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Chapter 1

Introduction

1.1. Introduction

This dissertation concerns the impact of the decade-long (1996 – 2006) political conflict (commonly known as the Maoist insurgency) on community-based forest management (CBFM) in the Middle-hills of Nepal. It focuses on case studies of three community forest user groups (CFUGs), and examines the following dimensions of resource management outcomes: resource governance, livelihood security, and environmental sustainability at local level.

Common- pool resources (CPR) in the hills of Nepal, especially forest resources, are important for supporting local livelihoods as well as providing environmental services of global as well as local significance. It has become more and more clear that global and local common-pool resources are interconnected (Ostrom et al. 2002), and for this reason an increasing number of international interventions are aimed at addressing resource degradation issues. The community-based management approach to natural resource management has been advocated as a viable resource management policy for some decades (Berkes 1995, 375; Menon et al. 2007, 293-298; Kellert et al. 2000, 705; Persoon and van Est 2003, 1; Ellen 2003, 296). At the same time, understanding the dynamics of community-based forest governance (CBFG) processes and the resulting outcomes remains a key challenge for all concerned. The long-term implications of these initiatives, especially in a society in which there are entrenched caste, ethnicity, gender and socio-economic differences that have spawned political conflict, is not fully understood.

Community forests occupy an important place in local people's livelihoods, particularly since the introduction of the program in 1978 in rural Nepal. Considerable agreement exists among researchers about the positive impact of the community forestry program in Nepal with respect to the improvement of the

bio-physical condition of the forest (Bhattarai and Khanal 2005, 65; Adhikari, Nagata, and Adhikari 2004, 44; Dangal 2002; Upreti 2001; Acharya et al. 2006; Acharya 2005; Agrawal 2001; Kanel, Poudyal, and Baral 2005; Acharya 2002; Dev et al. 2003). With the onset of the Maoist insurgency in 1996, and the subsequent political conflict over the following decade, there was great concern among academics, the donor community, government, and planners about the impact of the armed conflict on the community forestry program in Nepal. Many studies have been carried out on different aspects of community forestry in Nepal (Kanel 2008; Dahal and Chapagain 2008; Arnold and Campbell 1985; Bajracharya 1983a, 1983b; Schreckenberg and Luttrell 2009; Agrawal and Ostrom 2001; Gautam and Shivakoti 2008; Adhikari, Williams, and Lovett 2007; Acharya 2002). It is argued that robust common-pool resource institutions have promoted greater fairness in the distribution of benefits, more effective management of resources, and greater accountability towards resource users (Agrawal 2002, 71). However, very few studies have studied in depth the performance of common-pool resource governing institutions (CFUGs in this case) in the context of the political conflict of the last decade (Karna, Shivakoti, and Webb 2010; B.K et al. 2009).

The Maoist People's War began in 1996 in the Mid- Western Hill region of Nepal. The armed conflict did not have significant impact on socio-economic spheres, livelihoods of people and community forestry activities until 2000. However, the armed conflict reached in an intense stage and the impact on every sphere has been felt throughout the country especially after the formation of "People's Government" by the Maoist on October, 2001, launching of large-scale assault on military installations on 23rd of November 2001 and declaration of state of emergency by the government on 26th of November 2001. After discussion with community forestry users, Department of Forest (DoF) officials, for the purpose of this research, the period between 1995/96 to 2000/01 has been considered as pre/early conflict periods and the between 2001/02 to 2006/07 has been 'considered' as late periods of conflict. Using three case studies, and relying primarily on field data, I examine the outcomes of community-based forest management in terms of resource governance, livelihood security and environmental sustainability during the pre/early and late periods of armed

conflict. Not only does this study offer insights into the role of community forests in providing livelihood security among forest dependent communities, and the dynamics of community forest governance through CFUGs, it also enables us to assess the effectiveness of these institutions in a period of intense political upheaval. The conclusions derived from this study may help to devise future policy on community-based forest governance in Nepal and elsewhere.

1.2. Background and Context of Study

In the past few decades, the theme of "governing common-pool resources (CPRs)" has attracted remarkable interest both in academia as well as in policy circles (Ostrom 1990). Among the CPRs, the issue of governing forest commons more equitably, efficiently and in a more sustainable way remains a key challenge (Agrawal 2007, 111). Understanding how effective resource governing institutions can be crafted for the sustainable use and equitable distribution of scarce natural resources, and how the institutional arrangements of community-based forest management (CBFM) can shape resource-related outcomes, have become matters of great academic interest (Warren and McCarthy 2009, 8; Agrawal 2007, 112; Mansuri and Rao 2004). The focus on governance of the commons has emerged mainly due to the widespread problems of environmental degradation through pollution of water bodies, depleting timber and fishery stocks, dwindling biodiversity, soil erosion, desertification, and more recently recognition of the impact of forest policies on climate change. Thus, formulating a better resource governance system for the sustainable management of common-pool resources is one of the major issues in the 21st century (Gibson, McKean, and Ostrom 2000, 1; Ostrom et al. 2002; Haynes 2008, 136; McMichael 2000, 244). It is often argued that the primary cause of resource degradation is the absence of clear property rights, and it is advocated that the problem of resource degradation can be reversed by establishing appropriate institutional frameworks for proper governance (Acheson 2006, 118). There is argument among scholars regarding the most effective property regime to deal with protection of natural resources. Economists are in favour of solving the problem of resource degradation through the institutions of private property, others view state control as the only solution, while much of the social

anthropological literature argues that community control over resources in the best solution (Acheson 2006, 117). There is an emerging field of economics called “new institutional economics” that combines concepts from various social science disciplines including economics, organization theory, political science, sociology, law and anthropology. It primarily looks at various aspects of institutions such as how they emerge and evolve, how well they serve, and how they should be reformed. Moreover, it focuses on property rights, transaction cost, modes of governance and governing rules (Williamson 1971; Ostrom 2005b; Williamson 2000; Klein 1999). These scholars analyze open access and common property resource systems from new institutional economics perspectives, especially property rights theory and policy analysis. The emerging knowledge in the field indicates that local communities devise formal and informal institutions on common property resource (CPR) management under common property regimes that serve a number of important economic functions in managing the local commons, especially in designing appropriate forms of governance structure for natural resource management (Adhikari 2003).

Three different schools of thought have emerged on the institutional arrangements needed to avert the tragedy of the commons. The property rights school argues that only creating and enforcing private property rights can avoid the problem of over- exploitation of the commons. The main thesis behind this approach is that private property is the most efficient way to internalize the externalities that arise in other forms of resource regimes (Lloyds, 1833: 14 cited in Baland and Platteau, 1996). Since open access and unregulated common property do not give individuals the proper incentives to act in a socially efficient way (Baland and Platteau 1996), the property rights school contends that private property rights will spontaneously emerge to increase economic efficiency (Demsetz 1967). The second school of thought advocates that only the allocation of full authority to regulate the common pool resources to an external agency can reduce over- exploitation of CPRs. As a consequence scholars have long questioned the efficiency of CPRs under common property arrangements (Gordon 1954; Scott 1955; Hardin 1968) and solutions have been proposed, such as state control and management (Hardin, 1968) or privatization of the commons (Demsetz 1964). The third school of thought advocated that institution building

at the community level for managing CPRs is another possibility. Emphasis on the community-based approach arises from the wisdom that local communities not only understand their problems, but also have solutions because their livelihoods depend on these resources and are assumed to have greater incentives to manage resources sustainably over time (Ostrom 1992; McKean 1992). Furthermore, they argue that privatization of CPRs may cause problems related to distributional or ecological concerns or to the reoccurrence of negative externalities due to imperfect or absent markets. Moreover, in some ecological settings, the transaction costs associated with assigning private property rights are greater than the value of potential benefits due to spatial scale involved in natural resource management. An increasing number of scholars advocate that decentralized collective management of CPRs by their users could be an appropriate system for overcoming the 'tragedy of the commons' (Ostrom 1990; Berkes and Farvar 1989; Wade 1988; Jodha 1986; Baland and Platteau 1996).

In the changed global context it is unlikely that resolution of these serious environmental problems could be accomplished entirely by local communities, market mechanisms or through the bureaucracy alone (Lockwood et al. 2009, 3; Korten 1987, 1; Dietz et al. 2002, 25). Furthermore, it is argued that sustainable management of common-pool resources depends on the characteristics of resources and of the users. Essentially, it requires considerable ingenuity to devise multiple institutional strategies to cope effectively with the complexity of protecting endangered bio-physical resources within existing political, socio-cultural and economic institutions in which resource-use is embedded (Ostrom et al. 2002).

After many years of empirical research new knowledge is emerging in the management of commons that challenges conventional interpretations of Hardin’s metaphor of the “tragedy of the commons” (Hardin 1968), and argues that in many cases, especially in the small scale resource management systems, local users are capable of self-organizing and have often succeeded in devising rules and norms for governing the use and management of natural resources in a sustainable manner (Ostrom et al. 2002).

Property rights[1] over natural resources have important effects on the outcomes of resource management because they empower resource users to make operational rules on resource use and exclusion (Agrawal and Ostrom 2001, 508). Tenure over resources governs access to, use and management of natural resources, through which local communities are able to derive benefits and support their livelihoods (WRI 2005, 56; Meinzen-Dick et al. 1997, 1303). Scholars argued that property rights over natural resources play a central role in establishing the patterns of governance, distribution of benefits, and sustainability of the resource base (Meinzen-Dick et al. 1997, 1303; Lawrence 2000, 3) Devising a clear cut property right and enforcement mechanism is the first step in securing the proper management of common-pool resources. Secondly, crafting rules for the appropriation of resources and limiting the amount of harvest, equipment type, time and place are important to limit levels of exploitation (Rose 2002, 241; Acheson and Wilson 1996, 582). Based on the analysis of diverse case studies, Elinor Ostrom has suggested eight design principles (see chapter 2) which she refers to as essential for the success of CPR governing institutions in the sustainable management of common-pool resources.

There is growing interest in the study of common property institutions, as indicated by the award of the Nobel Prize in Economics to Ostrom in 2009 for her work in this field.[2] She has consistently argued that common property institutions are a viable mechanism for the sustainable management of resources and have a significant role in shaping the patterns of human behaviour and the outcomes that enable individuals to benefit from the resource more or less sustainably (Ostrom 1992, 24). Institutions define the rights and duties of users with respect to particular common resources (Dietz et al. 2002, 24).

Increasingly today developing countries have begun to focus their attention on community-led local institutions by decentralizing the governance of natural resources (Agrawal 2002, 41). There is a debate among researchers, policy makers and practitioners of CPR management regarding the appropriate roles of

[1] A property right is defined as "the capacity to call upon the collective to stand behind one's claim to a benefit stream" (Bromley 1991:15).
[2] The Prize was awarded to Ostrom "for her analysis of economic governance, especially the commons" <http://nobelprize.org/nobel_prizes/economics/laureates/2009/> accessed 15 September, 2010.

government, community and the private sector in the management of the global commons, more specifically in the face of failure of centralized resource management systems (Dietz et al. 2002, 24) and the inequities and uncertainties of private property solutions (Warren and McCarthy 2009). These failures have forced planners, development practitioners and academics to reconsider the role of community in local resource management (Agrawal and Gibson 1999, 629). However, there is also a realization that it is unlikely that problems caused by growing pressure on the finite natural resource base can be resolved entirely by local communities, any more than through the bureaucracy or market mechanisms alone (Lockwood et al. 2009, 3; Korten 1987, 1; Dietz et al. 2002, 25).

After the failure of conventional governance structures in solving the issue of resource degradation on the one hand and the demand for greater control and autonomy over natural resources by local people on the other, community-based natural resource management (CBNRM) via decentralized institutional arrangements was initiated to formally incorporate local communities in resource management (Menon et al. 2007, 4; Persoon and van Est 2003, 1; Agrawal and Ribot 1999). Restructuring of CPR governing institutions has been initiated with the introduction of different modes of co-management and community-based arrangements involving both state and non-state actors (Meynen and Doornbos 2004, 235).

By the 1990s, various co-management (CM) and community based natural resource management (CBNRM) approaches were adopted in the Asian region for dealing with CPR issues associated with forests, water management, and fisheries (Menon et al. 2007, 1; Kumar 2005, 275). These revived or newly established community-based governance initiatives have opened up an avenue of opportunities for collaboration between citizens and the government to further their respective interests (Brunner and Steelman 2005, 19). The advocates of community-based approaches argued that CBNRM brings transparency to the decision-making process and promotes public vigilance and accountability (Warren and McCarthy 2009, 234), ensures effectiveness of development, promotes social justice and environmental sustainability (Menon et al. 2007, 1-

2), and enhances efficiency and equity while enabling development that is socially and environmentally more equitable and sustainable (Ribot, Agrawal, and Larson 2006, 1865). Due to the participatory features of the community-based approach, it is asserted that community-based governance will be cheaper, more effective and responsive to the needs of local people (Carlsson and Sandström 2008, 37; Colfer, Dahal, and Moeliono 2008). Ideally it would increase accountability and societal participation, while reinforcing empowerment and democratisation of the local community (Menon et al. 2007, 4).

The community-based forest management (CBFM) approach was adopted in Nepal in the late 1970s, after the failure of the centralized forest management regime had become apparent (see chapter four), by delegating some central government forest management authorities to local institutions. In 1988, for the first time in Nepal the devolution of authority over forest management was initiated by handing over some state controlled forest to local community in Kavrepalanchok district (DFO 2007). This policy shift reflected a new recognition of the importance of local management of forests, and its potential for greater effectiveness than the former centralized regime (Agrawal 2001a, 1650). After the restoration of democracy in 1990, the government of Nepal introduced the 1993 Forest Act and the 1995 Forest Regulation, which incorporated various community friendly provisions and recognized the people as the ultimate users and managers of the forests. The 1993 Forest Act has recognized Community Forest User Groups (CFUGs) as independent self-governing institutions. As of July 2008, 14,439 Community Forests (CF) have been handed over to communities throughout the country (covering 22% of Nepal's total forests and 35% of the potential community forest area). Donor agencies such as the World Bank, United States Agency for International Development (USAID), Australian Agency for International Development (AusAID) and Britain's Overseas Development Agency (ODA), have been involved in assisting the government of Nepal in implementing community forestry programs (Kanel 1998). Nepal is considered to be a global leader in the community forestry sector having experimented with CF programs for more than 30 years. It is acknowledged as exemplifying good practice in participatory

forestry, and especially for its efforts in dealing with the problem of resource degradation (Pokharel et al. 2008, 55; IUCN 2000, 57). Local control over forest resources has significantly improved the bio-physical environment, and the fulfilment of basic needs of rural communities for forest products and services (Acharya 2002, 152; Bhattarai and Khanal 2005, 65; Kanel, Poudyal, and Baral 2005; Adhikari, Nagata, and Adhikari 2004, 44; Dangal 2002; Agrawal and Ostrom 2001; Upreti 2001; Dev et al. 2003; Acharya et al. 2006; Acharya 2005; Adhikari, Williams, and Lovett 2007, 476).

Although Nepal has been in the forefront of experiments with community-based forest management, the sustainability of the CF program in Nepal was in question after the onset of the Maoist insurgency in 1996 and continuing armed conflict over the following decade. During the ten year period of armed conflict (1996-2006), the main targets of the Maoists were not only the Nepalese Army and Police, but also forest guards (both armed and unarmed) and security personnel (mainly army) deployed for the protection of national parks. Since law and order was largely absent in the countryside with the Maoists controlling an overwhelming majority of hill districts (where most of the community forests are located), district level forest employees were targeted and forestry infrastructure (offices, equipment and field stations) were often destroyed (Uprety, 150-151).

The social and economic costs of the decade long conflict were immense. Over 13,382 people were killed, 300,000–400,000 rural families were displaced and injured and educational institutions were badly disrupted (NGO Federation of Nepal 2003: xiv-xiv; ADB 2004). GDP also declined sharply to -0.4% in Fiscal Year 2002. Economic growth was drastically reduced from an average rate of 4.8% in the 1990s to 2.8% during the 2002/03 – 2006/07 periods, severely curtailing public expenditure (UNDP 2009, 22). Due to the worsening law and order situation in the country, and limited mobility in rural areas, only sketchy reports have been available on the impact of the armed conflict on the natural resource base in Nepal.

Most reporting during the armed conflict period concerned illegal poaching of endangered one-horned rhinos, taxation of Non Timber Forest Products

(NTFPs), displacement of households, damage to conservation infrastructure and public access to forest resources. During the insurgency period Maoist forces captured a number of national parks throughout the country and prohibited government officials and employees from entering the parks. For example, the offices of the Kanchanjunga Conservation Area, Mannaslu Conservation Area, Dhorpatan Hunting Reserve, Makalu Barun National Park, and Langtang National Park were captured and staffs were forced to move to their respective district headquarters, putting local conservation efforts at risk (Budhathoki 2003, 73). In other instances national park offices were taken over by Nepalese forces, as in the case of Sagarmatha National Park, in order to carry out security operations. Due to lack of security and the risk of encounters with insurgents, many senior park staffs were removed from their field offices (Budhathoki 2003, 73; Upreti 2006, 272). In addition, 30 District Forest Offices (DFO) buildings, 52 *Illaka Ban Karyalaya* (Area Forest Offices), 235 Range Posts, 2 Forestry Training Centres, and 3 Armed Guard Quarters were partially or fully destroyed, amounting to a total loss of NRS 311.7 million[3] Nepali rupees[4]. During the insurgency period, encroachment into forests, illegal felling, poaching, hunting, and smuggling of medical plants and timber were widely reported (Upreti 2006, 271). As security forces were diverted and deployed against the insurgents, there was an increase in illegal hunting of protected wildlife species.

The Maoist insurgency affected every walk of Nepalese life - social, economic, cultural and environmental (ADB/ICIMOD 2006: 169-170). Several studies have been carried out in recent years on Nepal's armed conflict, especially focussing on the socio-economic and political aspects of the conflict (Do and Iyer 2007; Murshed and Gates 2005; Parwez 2006; Pyakurel 2007; NGO Federation 2003), to some extent including resource conflict perspectives (Upreti 2004, 2002). However, none of the studies that have been conducted so far focus on the impact of armed conflict on community-based governance of the forest commons at local level. The armed conflict engulfed the whole country and affected every section of Nepalese society. However, the impact of the conflict

[3] 1 US$ equivalent to 70 Nepali Rupees

[4] The data on damage to forestry infrastructures was received on July 20, 2008, from Mr. Ram Bhakta Malla, Under Secretary (Technical), National Forest Division, Department of Forest, Babarmahal, Kathmandu, Nepal.

on the natural resource base - rural people's livelihoods and governance processes (specifically with respect to community forestry programs) are neither well understood nor well documented. There have also been a number of studies of the Nepalese community forestry program (Adhikari, Williams, and Lovett 2007; Bhattarai and Khanal 2005; Kanel, Poudyal, and Baral 2005; Adhikari, Nagata, and Adhikari 2004; Dangal 2002; Agrawal and Ostrom 2001; Upreti 2001; Dev et al. 2003; Acharya et al. 2006; Acharya 2005).(Upreti 2001; Adhikari, Williams, and Lovett 2007, 476; Acharya 2002, 152; Bhattarai and Khanal 2005, 65; Kanel, Poudyal, and Baral 2005; Adhikari, Nagata, and Adhikari 2004, 44; Dangal 2002; Agrawal and Ostrom 2001; Dev et al. 2003; Acharya et al. 2006; Acharya 2005; Adhikari, Williams, and Lovett 2007). However, there have been no studies available so far specifically investigating the governance processes, livelihood security and environmental services of the community forestry program during the late period of armed conflict and comparing these with the pre/early conflict period. There is a need to understand the impacts of conflict on the sustainable management of forest resources, and compare governance processes of community forest management during pre/early and late conflict periods in order to assess the resilience of CBNRM programs and to develop appropriate policies and plans in the post-conflict period.

1.3. Research Questions

The main aim of this dissertation is to investigate the impact of the decade-long political conflict (commonly known as the Maoist insurgency) on community-based forest governance, livelihood security and environmental sustainability of forest dependent rural communities in Nepal. More specifically, the dissertation will investigate the extent to which community-based forest co-management (CBFCM) and utilization programmes contributed livelihood support to the rural poor before the emergence of conflict, and how prolonged armed conflict (PAC) affected the sustainable use and local management of forests in Nepalese rural communities. The research was concerned to trace community forest user group (CFUG) governance practices and the various coping strategies and portfolio diversifications that rural households adopted in trying to secure livelihood and wellbeing in the midst of armed conflict.

This thesis seeks to address the following questions:

i. To what extent was community-based management of forest resources sustainable and effective in providing livelihood support prior to the outbreak of armed conflict? To what extent did the different socio-economic strata within these communities participate in and benefit from the management of community forests?
ii. How did prolonged armed conflict affect access to and sustainable use of natural resources by rural communities? Were existing institutions for the management of community forests adversely affected or broken down by the conflict? What overall impact did the prolonged conflict have on the livelihoods of rural households in forest dependent communities, particularly the poorest sectors?
iii. What alternative coping strategies (institutions) did households adopt and what effect did this have on the long term sustainability of their livelihood strategies and the environment, particularly the environmental services associated with community forests?
iv. What are the implications for post-conflict policy toward community forestry and its contribution to livelihood security in rural Nepal?

The research questions addressed by this thesis are informed by the literature on common property, decentralized governance and community-based forest management (CBFM). They ask whether these initiatives in Nepal created the space for local populations to accommodate their livelihood needs with conservation goals. At three case study sites, community-based forest co-management (CBFCM) is examined, comparing several indicators for assessing the continuity and effectiveness of forest resource governance for livelihood security and environmental sustainability during pre/early and late conflict periods. Indicators assessing processes of decision making in Community Forest User Groups (CFUGs) include representation of CFUG members (especially women and marginalized sections of the community) in decision making forums, frequency of CFUG meetings, equity, access and benefit sharing mechanisms through expenditures of CFUG income. Community forest contributions to household basic needs, community development and employment opportunity are examined. Environmental sustainability outcomes were assessed using indicators such as the status of wildlife in the community forest, status of forest regeneration and condition of the watershed.

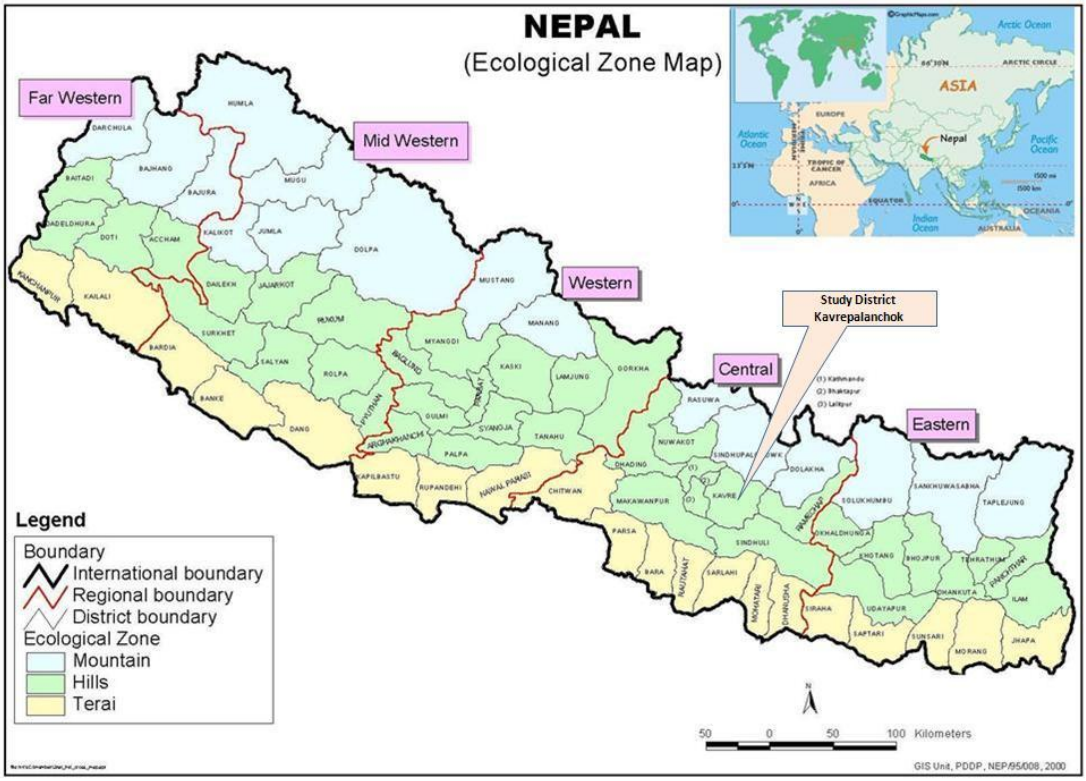
1.4. Selection of Case Study District and Study Sites

Kavrepalanchok district is located in the middle-hill zone to the south east of Kathmandu, and was heavily affected by the armed conflict (see map 1.1). It consists of terrain and topography typical of the middle hills region with elevations ranging from 318 to over 3,000 meters above sea level. The total area of the district is 1396 sq. km. The Mahabharat[5] range, which extends east-west, divides the district into two parts. The northern part is relatively accessible and densely populated whereas the southern part is relatively remote and sparsely populated. The climate varies considerably, from sub-tropical to warm temperate and cool temperate. The annual temperature range is 10 – 31 ^{o} C and average annual precipitation is 1650 mm. The district headquarters, *Dhulikhel*, is situated

[5] The Mahabharat Range is a major east-west mountain range also called the 'Lesser Himalaya' and Lower Himalayan Range. It parallels the much higher Himalaya range which lies about 100 kilometers to the north, and the lower Siwalik or Churia Range (Outer Himalaya) to the south.

30 km east of Kathmandu and Kavrepalanchok district is one of the major suppliers of milk to the capital city.

Map 1.1: Map of Nepal Showing Study District



Source: (UN 2000)

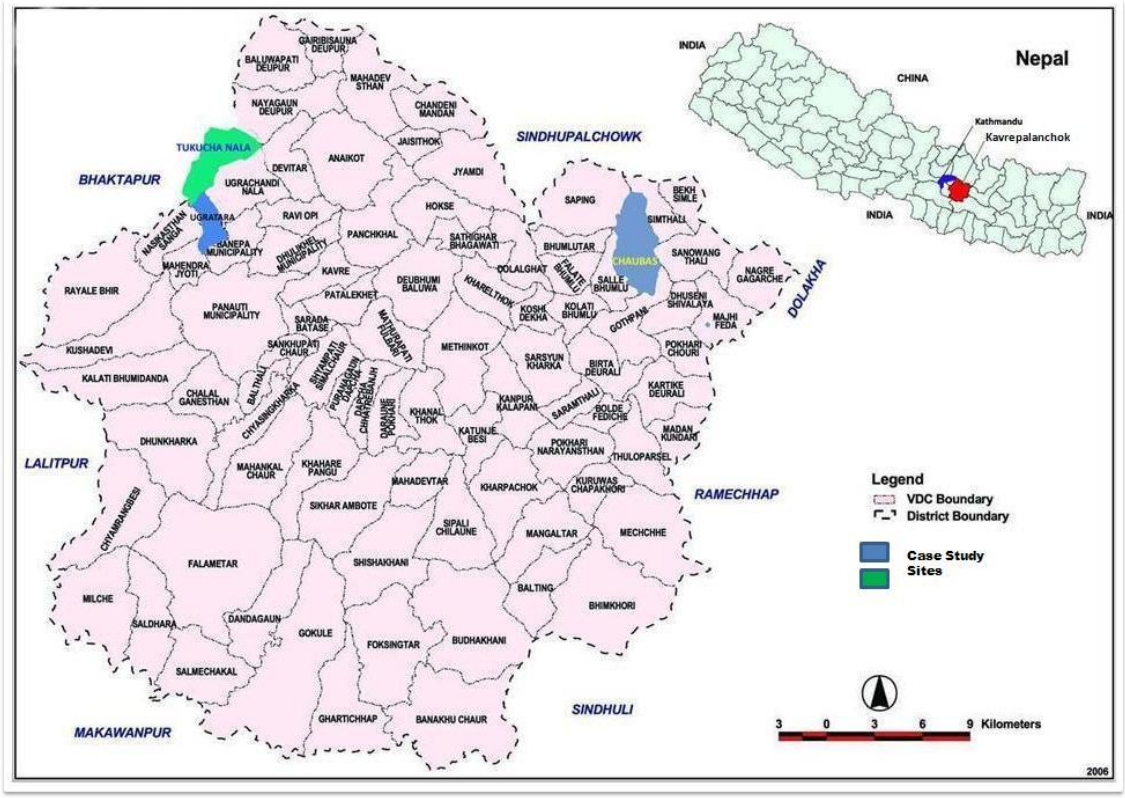
An indigenous system of forest management was in existence in Kavrepalanchok district for centuries (see chapter five) (Fisher 1988). The state forest governance system in Kavrepalanchok district began in 1960 after the establishment of the Chautara Forest Division. From 1960 to 1982, forest governance in Kavrepalanchok district was administered through the Chautara Forest Division, Sindhupalcok. In 1983, the District Forest Office, Kavrepalanchok was established, which has one Regional (*Ilaka*) Forest Office and eight Range Posts offices responsible for forest administration and support of the now well-established CF programmes in the district. The Nepal-Australia Community Forestry Project (NACFP) carried out a large scale re-forestation program from 1973 on degraded and denuded land in the districts of Kavrepalanchok and Sindhupalchok. During this four decade long (1966-2006) partnership, 27,000 ha of forest were handed over to nearly 700 community forest user groups to implement community forestry and resource management programs (AusAID

2006). The project launched extension programs and training for forestry staff and forest users in order to increase skills and awareness on the conservation and sustainable management of forest resources.

Kabhrepalanchok district has been selected for this study because it falls under the Middle-hills region of Nepal and also because it has been a pioneering district in piloting the community forestry programme. In addition, the Middle-hills region, which covers 41% of Nepal's total land area and harbors 45.5% of its population, has been the main focus of the community forestry programme (Springate-Baginski et al. 2003, 6). Since the inception of the community forestry progam, this district has played a pioneering role in the development of CF in the country. It was in this district that the first community forest in Nepal, "*Sano Ban Pandey Gaon"* was handed over to the community on July 12, 1988, marking a significant transformation in the official recognition of community rights and responsibilities for forest management.

Kavrepalanchok district experienced a high level of conflict, killings and displacement during the period of insurgency (Hatlebakk 2007, 4). As the main focus of this study is to investigate the impact of prolonged armed conflict on community-based forest governance mechanisms and livelihood security, this is an ideal district in terms of representativeness which has over 18 years history of implementing community forestry in Nepal. Furthermore, my PhD study is supported by the South Asia Research Facility which is funded by Australian Aid for International Development (AusAID) with a particular aim to enhance the skills and knowledge of researchers working in South Asia. As a resident of Nepal, being well versed in the local language, and also with experience working in the environment and natural resource management sector as an officer in the Ministry of Forest and Soil Conservation for more than two decades (in the case study districts from 1998 through 2001), I considered Kavrepalanchok district to be an ideal focus for this study.

Map 1.2: Location Map of Kavrepalanchok District Showing Study Locations* (shaded)



Source: District Development Committee, Kavrepalanchok, 2008

Three Community Forest User Groups (CFUGs) were selected for the study, all situated within the Middle-Hills region of central Nepal. The selected groups were Hile Jaljale (Ka) CFUG at Tukucha Village Development Committee (VDC); Sharada Devi CFUG at Ugratara Janagal VDC; and Lakuri Rukh Bhulbhule CFUG at Chaubas VDC. The CFUGs were selected based on the following criteria: i) distance to district centre; ii) degree of influence of the armed conflict (representing an area controlled by Maoists, an area controlled by security forces and an area without control by either of the contending parties); iii) maturity of CF governance; and iv) degree of local people's dependence on the community forest. Among the three CFUGs, Sharada Devi Community Forest User Group (SDCFUG), located near the district centre and market, was not directly affected by either of the opposing parties during the late conflict periods, and the degree of economic dependence on the CF was less compared to the other two locations. The second case study, Hile Jalajle (Ka), is located at an intermediate distance from the district centre and market. This CFUG was heavily influenced by the security forces during the late conflict periods and the

user group had a relatively greater dependence on the forest. Finally the third case study, the Lakuri Rukh Community Forest User Group (LRCFUG), is remote and located farthest from the district capital with limited access to the market, and was dominated by Maoist insurgents during the period of armed conflict.

1.5. Research Methodology

For this particular research, I have adopted a case study approach (Yin 2009, 2). The case study research method has been used commonly in various disciplines with the aim of investigating the complexity of social phenomena (Yin 2009, 4). It is argued that the case study approach is particularly suitable under three conditions: firstly, when the research questions are concerned to answer "how" and "why"; secondly, when the researcher has little control over events; and finally when the research is conducted on contemporary phenomena and in a real life situations (Yin 2009). Case study research is a complex task as it has to deal with the richness of phenomena in real life contexts, thus requiring multiple sources of evidence and the triangulation of data. In the field of collective action and commons studies, multiple methods are typically applied in the research. Among them, the case study approach has been widely used for empirical field-based research. This approach focuses intensively on one or more representative cases in order to draw inferences about the large population (Poteete, Janssen, and Ostrom 2010, 33), investigating in depth the particularity and complexity of each case in order to understand its dynamics in context (Stake 1995, 4). It is argued that the case study research approach is better able to deal with the complexity of processes (Poteete, Janssen, and Ostrom 2010, 33). The case study is defined as "an intensive study of a single unit for the purpose of understanding a larger class of (similar) units" (Gerring 2004, 342). Case study research allows holistic and detailed analysis and cross-case comparison (Bennett and Elman 2006, 259). In order to obtain multiple perspectives on the case, researchers using the case study approach and obtain descriptions and interpretations from others, seeking primarily to discover and portray the multiple views of others through interviews (Stake 1995, 64).

Case study field research involves a range of data collection methods, including: semi-structured interviews with key informants; focus group discussion; household surveys: and observation and collection of secondary data (Poteete, Janssen, and Ostrom 2010, 34), and is aimed at uncovering the dynamic processes at work. In this research both qualitative and quantitative data collection methods were employed to generate data for the cases to be compared. Purposive sampling was used for the selection of case study communities, as it is appropriate to select specialized populations to identify particular types of case for in-depth analysis (Newman, 2003, 138-139). As indicated above, selection of the three Community Forest User Groups was made in view of a range of key characteristics: influence of the conflicting parties (one area dominated by security forces, another dominated by the Maoists, and the last without the influence of either of the conflicting parties); incidence of violence during the conflict; distance to district centre; maturity of the Community Forest program; and the relative dependency of these rural communities on forest resources. After the purposive selection of three CFUGs, the population living in the particular communities was divided into sub-groups (strata) using stratified sampling on the basis of a participatory wealth ranking, in which the criteria for dividing the population into three different socio-economic categories were based on the perspective and evaluation of villagers themselves (Richards et al. 1999; Zeller, Feulefack, and Neef 2006; Adams et al. 1997; Adhikari and Lovett 2006; Hargreaves et al. 2007). Newman (2003) argues that stratified sampling is useful and effective in producing samples more representative of the population of particular strata of interest, which could be missed in a random process. It guarantees that each group is represented in the sample.

The population was divided into three sub-groups, namely upper-income[6], middle-income[7], and lower-income households[8]. Once the population was

[6] Upper-income households supplement their income from farming, local businesses, and service/overseas employment. They often have land outside the village, have irrigated as well as un-irrigated land holdings, and larger areas of *kharbari* (private forest and pasture land). Generally they are self reliant and have food sufficiency.

[7] Middle-income households commonly have land-holdings and cattle, but only modest *kharbari*. Significant household income is earned from animal husbandry (including dairying) and vegetable farming (depending on the fertility of the soil and distance to the market). They tend to be heavily dependent on inputs to their farming systems from community forests. Off-farm employment is also important for their income.

divided into sub-groups, a random sampling was applied to select respondents from each stratum (Lind, Marchal, and Wathen 2010, 262). According to the central limit theorem[9] (Lind, Marchal, and Wathen 2010, 271), a sample of 30 selected from a population will be representative if the phenomena of interest is normally distributed. Randomization generally increases the likelihood of selecting a representative sample if the population is normally distributed (Poteete, Janssen, and Ostrom 2010, 76). A total sample of 45 households from each community with 15 households from each of the three income groups has been selected randomly for a detailed household survey from the complete list of the CFUG members (see household survey questionnaire in the Appendix)**.** In addition to the structured household survey, primary data were collected using Participatory Rural Appraisal (PRA) methods including key informant interviews, focus group discussions, wealth ranking, semi-structured interviews, and transect walks to enable triangulation (Chambers 1994a, 1253). Participatory rural appraisal (PRA) as a qualitative assessment tool has gained mainstream acceptance as one of the tools for including the voice of the poor and trying to understand realities at the local level through local people's own analysis (deGraft Agyarko 2002). A number of methods are used in PRA that include: participatory mapping, time lines and trends, change analysis, seasonal calendars, key informant interviews, focus group discussions, wealth ranking, semi-structured interviews, and transect walks to enable triangulation (Laderchi 2001, 6-7; Chambers 1994a). Timelines are used for assessing migration patterns and environmental changes, while trend analysis is used for income and expenditure, and focus group discussions are used to investigate access to services, access to common property resources and other natural resources including soil and water conservation, forestry, agriculture and fisheries among others (deGraft Agyarko 2002; Chambers 1994a, 1253). Key informant

[8] Lower income households (including landless households) have small or no land holdings, are mostly dependent on off-farm activities, such as labouring, artisan work (blacksmithing, tailoring, mason, carpentry) and non timber forest product collection. To pursue these livelihoods they have specific needs from the forest distinct from the other wealth-rank groups, such as charcoal for blacksmithing, and fuel-wood and medicinal plants for sale.

[9] The central limit theorem is based on the theory of probability. The theorem states that if all samples of a particular size are selected from any population having the same distribution has, under certain general conditions, the distribution of the sample mean is approximately a normal distribution. Moreover, the approximation steadily improves as the number of observations increases. (Lind, Marchal, and Wathen 2010, : 271).

interviews were conducted with CFUG committee members, village leaders, social workers, representatives from women's groups, and forestry technicians. Before the interview a semi-structured questionnaire was developed to guide the interview. Information available from the Nepal-Australia Community Resource Management and Livelihood Project (NACRMLP), at the District Forest Office and Department of Forest (DoF) was used as far as possible.

It has been argued that the case study approach poses problems of limited external validity, and difficulty of replication (Poteete, Janssen, and Ostrom 2010, 33). It is useful to select cases which are typical and representative of other cases. For the analysis of collective action on the commons, the main unit of analysis in the case study research can be natural resource systems, villages, community forest user groups, or other social groups. Case study research has proved useful in conceptual development and testing of theory, especially in the study of commons. However, researchers should be careful in selecting, cases, and should endeavour to control the pattern of variation and comparability in such a way that it leverages analytical strength (Poteete, Janssen, and Ostrom 2010, 34, 76). For the study of community-based forest governance arrangements and livelihoods, a combination of both documentary analysis and field research is necessary (Ellis 2000, 198). However, the mix of data collection methods is often dictated by the resources available and time factors. Field based research demands substantial time and financial resources, which poses particular challenges for student researchers (Poteete, Janssen, and Ostrom 2010, 74). For this particular research, a six-month field survey was undertaken from February 9 through July 30, 2008. During my field visit the comprehensive peace agreement between the Nepalese government and the Maoist was signed. In the countryside the uncertain security situation still made it difficult to collect data and interact with people. However, being well known to the local area I managed to collect the data required despite these challenges.

1.6. Chapter outline

This thesis is organized in nine chapters. The first chapter has provided the background and context of the research and identifies the issues, research

questions and conceptual framework that informed the research plan. It also presented a methodological overview, explaining the criteria for selection of study sites, the methodological approaches adopted, and sampling criteria for selection of survey households.

Chapter two explores the existing theoretical debates on common property resource governance, collective action, and property rights in the management of natural resources. This chapter specifically deals with the different approaches to resource governance, focusing on particular debates and recent findings on co-management and community-based forest governance.

The third chapter discusses in detail the political conflict in Nepal. It begins with an historical overview of political development, socio-economic conditions, and the struggle for democracy in Nepal. This chapter also outlines the evolution of the communist movement in Nepal, the causes of the recent armed conflict (1996 – 2006) launched by the Communist Party of Nepal – Maoist (CPN-M), and the historical peace agreement between government and CPN-M, signed in 2008. It also assesses the dynamics of armed conflict, its socio-economic implications and impacts on the environment and the community forestry program in particular.

Chapter four provides an overview of forest policy, including the evolution and practices of community-based forest management (CBFM) initiatives in Nepal. It discusses the farm-forest and livelihoods linkages for rural households and provides a detailed account of the evolution of the community forestry program and its socio-economic and environmental benefits at village level. This chapter then considers equity and gender issues, and the question of the effectiveness of the community forest programs in addressing the problem of poor and marginalized people to date in Nepal.

Chapters five, six and seven are case studies of three community forest user groups (CFUGs). Each chapter begins with a brief introduction to the study site, socio-economic background information on the households. Each examines the context of forest degradation in the village, how the community forest programs

were initiated, and the level of people's participation in the process. It further explores the dynamics of local level governance of community forests and considers questions of protection of environmental services, equity and community development benefits of the program. In a nutshell, the case study chapters assess how the prolonged armed conflict impacted upon participation in local level forest governance, livelihoods and the sustainability of environmental services associated with community forests.

Chapter eight compares the three dimensions of the community forestry program - resource governance, livelihood security and environmental sustainability - across the three case studies chosen for study in terms of the influence of the conflicting parties, distance to the district centre and dependence on the community forest on the socio-economic, governance and environmental parameters of investigation.

Finally, chapter nine presents the conclusions and policy recommendations drawn from the study and identifies areas requiring further research.

Chapter 2

Governance of Common-Pool Resources (CPRs)

2.1. Introduction

Previously in the Asian region and elsewhere, natural resources were typically either under the effective control of local communities or were available to them as open access. Even where traditional states claimed sovereignty, local people were managing and harvesting common-pool resources (CPRs) under established customary rules and practices (Persoon and van Est 2003, 1-2). However, after colonization, authority over most commercially important natural resources - forests, minerals, land and water - was appropriated by colonial governments. Large tracts of primary forest were granted as concessions to private companies for commercial purposes and large forest areas were converted to either agricultural land or commercial plantations. During this period, colonial interests, private companies and local elites mostly benefitted. After the end of colonial rule, the establishment of national governments in Asia and pursuit of developmentalist policies during the 1970s and 1980s intensified pressure on natural resources. Degradation accelerated as global markets expanded while governments did not have the technical, human and financial resources to control the vast areas theoretically under central government control (Berkes 1994; Persoon and van Est 2003, 3).

In South Asia, forest management was heavily influenced by the British colonial administration during the nineteenth and twentieth centuries that shaped the formalization of the forestry sector, creating a complex administrative, legal and policy framework. This colonial forestry legacy was institutionalized in almost all the South Asian nations (IUCN 2000, 5). A dramatic depletion of natural resources including forests was experienced in the post-colonial "development" period. After independence, national governments in most cases did not change natural resource management policy, leaving central state agencies tasked with implementing national policies and legislation (Korten 1987, 275; Persoon and

van Est, 2003, 2; Webb 2008, 25). Pressure to exploit resources for national development, expanding markets and technological innovation in the 1960s and 1970s led to overexploitation of the vast forest resources of the Asian region, which soon became exhausted across much of the region. (Persoon and van Est 2003, 3)

Beyond the formulation of laws in favour of state control, rationalized in terms of scientific management and national economic development, there was barely any attempt to address issues of local property rights, or institutional arrangements that would assure access to and sustainable use of common-pool resources (CPRs) for ordinary people. In the past, access to and use of these resources had been largely determined by the local communities themselves. However, under the modern state local communities lost their role in the management of resources now under the jurisdiction of central government (Korten 1987, 276). Critics argued that while modernizing and rationalizing resource management, authorities underestimated the resource management capacity and experience of local communities and over-estimated the state's capacity to manage these resources on a sustainable basis (Berkes 1994, 19-20; Goodland, Ledec, and Webb 1989, 150; Persoon and van Est 2003, 3). Governments undermined traditional systems of resource management, claiming that these systems were inequitable and unproductive. In doing so government put a great burden on the national economy, and aggravated disparities by transferring power over resources from local people into the hand of elites (Korten 1987, 1). Because of their technocratic and bureaucratic approach, many development projects in agriculture and rural development failed to deliver the desired objectives due to centralization of decision-making and minimal participation of local stakeholders (Chambers 1983).

Narrowly defined economic development policies produced pernicious effects on the global environment (Weaver, Rock, and Kusterer 1997, 1) and aggravated poverty (Mansuri and Rao 2004, 5). Concerns over combined socio-economic and environmental impacts reawakened the interest of the international community in local management of natural resources. There was realization at the international level that the existing model of development not only had

negative impacts on the natural resource base, but also increased the gap between developed and developing nations. In order to address the issues of failed development intervention, inequitable distribution of resources at a global scale, and the deepening environmental crisis, the United Nations World Commission on Environment and Development (WECD) commissioned the Brundtland Report (also known as "Our Common Future") in 1987, which was primarily concerned with the integration of economic, social, and environmental aspects to achieve sustainable development[10] (Jacobs 1999, 21). Environmental issues received further attention after the convening of the 1992 Earth Summit and the adoption of Agenda 21. The Rio Declaration and the establishment of the "Commission on Sustainable Development" were considered a watershed in placing environmental considerations into the mainstream of development policy.

Because of the failure of many development interventions, there was a realization among policy makers, academics, and development practitioners that the problem of natural resource degradation could not be addressed without understanding the nature of property rights and authority over natural resources (Bromley and Cernea 1989, 5). In his seminal article "The Tragedy of the Commons" published in the journal *Science* in 1968, Garrett Hardin argues multiple individuals acting independently on the basis of their self-interest will ultimately deplete a shared limited resource, even when it is clear that it is not in anyone's long-term interest for this to happen (Hardin 1968). The Hardin metaphor of the "tragedy of the commons" had a remarkable influence among social scientists and policy makers in formulating new policies and programs in response to the inadequacies of state control (Bromley 1990, 6). Hardin's thesis was widely used to explain the overexploitation of forests, fisheries, overgrazing, and misuse of public land in the situation of open access regimes. In the 1960s and 1970s, Hardin's article stimulated intense discussion among academics across both the natural and social sciences, emphasizing different aspects of his account of resource degradation, and taking different lessons from the allegory

[10] - In the Brundtland Report, sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs"(WCED 1987, : 87). However, due to the vagueness of the definition, and conflicting principles underpinning concepts of ecological sustainability and economic development, there has been widespread controversy concerning what 'sustainable development' actually means.

(Dietz, Dolsak et al. 2002). Hardin has been criticized for failing to distinguish an open access regime (a free-for-all) from a common property regime in which group rights are bounded and behavioural rules are specified, and was interpreted to refute the possibility of governing, organizing and managing a CPR through local institutions, with rules and sanctions prepared by the resources users themselves (Bromley 1989, 875; Bromley and Cernea 1989, 6). Misunderstanding and confusion among scholars, planners and development workers, and their tendency to treat common property as an ineffective management regime, resulted in inappropriate policy recommendations and poor operational decisions (McKean 1992, 250; Bromley 1991, 22; Bromley and Cernea 1989 1, 7)[11].

Following Hardin's argument many countries around the world centralized natural resource management or, in line with neoliberal approaches, advocated privatization as the most efficient solution for avoiding the tragedy of the commons (Warren and McCarthy 2009, 9). However, Hardin's allegory has been criticized heavily (Wade 1987, 95; Ostrom 1990; Feeny et al. 1990; Bromley and Cernea 1989, 6-7). Because of the conflation of common property resources with "open access" regimes, conventional interpretations of the allegory failed to recognize that common property resources can be managed in a sustainable manner under certain conditions (Poteete, Janssen, and Ostrom 2010, 31; Feeny et al. 1990). Subsequent work by various scholars suggests that interpreting Hardin's thesis to argue that only privatization or state ownership of resources can avert the tragedy is overly simplified (Ostrom 1992; Feeny et al. 1990, 62; Bromley and Cernea 1989, 7-8). Empirical studies show that the degradation and unsustainable use of natural resources was observed in private as well as in open access situations, suggesting that "tragedies of the commons are real, but not inevitable" (Ostrom et al. 1999, 281). In many cases local communities successfully adopted communal arrangements for common property resource management (Feeny et al. 1990, 61; Bromley 1989, 875). Actually, Hardin talks about an alternative of "mutual coercion, mutually agreed on", which would have covered effective community management, but this was not taken up in the

[11] For detail see (Warren and McCarthy: 2009) on how this allegory fed into public policy in the subsequent decades.

earlier policy literature on CPRs, partly because it was incompatible with neo-liberal ideologies on privatization emerging in that period (Warren and McCarthy 2009).

In recent decades there has been renewed interest in the study of common-pool resources (CPRs) and common property, mainly due to the failure of centralized control of natural resources and of market oriented policy instruments to solve the problem of escalating environmental degradation (Agrawal 2008, 46). Some scholars argued that environmental degradation in developing countries, erroneously attributed to the "common property system", in fact emerged after the dissolution or disempowerment of traditional institutions of resource management (Berkes 1994, 19-20; Goodland, Ledec, and Webb 1989, :150; Persoon and van Est 2003, 3; Bromley and Cernea 1989, 7). The destruction of common property institutions originated with the political economy of the colonial era and was further spurred by national and developmentalist policies of the post-colonial period. Growing socioeconomic differentiation and stratification within these societies led to increasing divergence of ideas and interests among resource users that rationalized the capture of common-pool resources by powerful elites through state and private capital (Bromley and Cernea 1989, 7). Planners without proper knowledge of former or existing common property regimes frequently advocated privatisation or nationalisation of natural resources as a solution for solving the problem of resource deterioration, overlooking the potential of local resource management institutions (Bromley and Cernea 1989, 8). The privatisation policies which came into favour in the 1980s further undermined traditional local collective action mechanisms as a means of dealing with environmental issues (Bromley 1991, 35). The transfer of resource governance authority over common property resources, from local communities to state agencies, often led to a dramatic decline in the resource base and negative impacts on the livelihoods of local people (Dietz et al. 2002, 13).

There is serious confusion over the terms "commons", "common property resources/regimes" and "common-pool resources" in the debates surrounding sustainable resource management (Bromley 1986, 595). As defined by (Dietz et

al. 2002, 18), the term "commons" refers to a diversity of resources, facilities or property institutions that involve some form of joint ownership and access. Whereas common-pool resources (CPRs) refer to any natural or man-made resources or facilities to which more than one person has access and which is prone to degradation through over-use. Exclusion from a common-pool resource (such as forests or oceans) is costly and one person's use directly subtracts from the amount available to others:

> The term "common property" implies a kind of management arrangement created by humans rather than a characteristic of the resource itself. The preferred term for resources from which it is hard to exclude users is "common-pool" resources. The term "common-pool" focuses on the characteristics of the resource rather than on the human arrangements used to manage it. Such a resource could be left as open access without rules or could be managed by the government, as private property, or by a common property regime. (Dietz et al. 2002, :17)

2.2. Common Property Resources Management

Understanding the nature of property rights[12] and authority over natural resources is regarded as central to addressing the problem of resource degradation (Bromley and Cernea 1989, 5). Proponents of privatization consider that communal property lacks clear and effective delineation of rights over the CPR. Thus, no one is interested in investment for the improvement of the resource base as there is no guarantee of sustainable and equitable use (Demsetz 1967, 356). According to this view, lack of property rights leads to inefficient use and degradation of common property resources (Poteete, Janssen, and Ostrom 2010, 32). In this "tragedy of the commons" situation, the individual limits his investment, while benefitting more from the investment of others, which Mancur Olson refers to as the phenomenon of "free riding" (Olson 1965). However, the conventional wisdom of the private property rights proponents has been challenged by case studies from around the world which demonstrated that collective management of CPRs is possible in the absence of private individual or state property (Singleton 1999, 388-89; McKean and Cox 1982, 82; Grove 1993, 431; Trawick 2001, 361). These studies also showed that neither state

[12] Bromley (1986: 596) has identified basically four kinds of resource regimes over natural resources i.e. (i) Open access regime; (ii) Common property regimes; (iii) Private property regimes; and (iv) State property regimes.

control nor private property could guarantee sustainability or equity. Many empirical studies conducted on the commons revealed that local communities throughout the world have been sustainably and efficiently managing local common-pool resources through self-governed institutions for centuries under collective (non-private) arrangements and that these common property resources do (or could) continue to play an important role in supporting people's livelihoods and environmental conservation (Kassa et al. 2009, 1022; Berkes and Farvar 1989; McKean 1992, 247; Ostrom et al. 1999, 278; Jodha 1986, 1169; Ostrom 1994, 1990; 1992, 10; Ostrom and Gardner 1993, 102; Sneath 1998; Bromley and Cernea 1989, 9).

Agrawal and Ostrom have argued that common property rights[13] over natural resources are important for assuring local access and benefit (Agrawal and Ostrom 2001, 508) and that the outcomes of resource management can be largely explained by looking at what type of property rights and powers are exercised by the local community (WRI 2005, 56; Agrawal and Ostrom 2001, 486-487; Meinzen-Dick et al. 1997, 1303). Secure rights over resources are recognized as a crucial factor in shaping the use of technology and investment in improvement of the natural resource base (Knox, Meinzen-Dick, and Hazell 2002, 12), since without the guarantee of sharing benefits, people have no incentive to adopt new technology or change practices to improve the condition of the resource base (McCulloch, Meinzen-Dick, and Hazell 1998, 8). Some scholars argue, however, that formal property rights do not necessarily guarantee improved resource conditions, or enhance collective action, as resource management groups may pursue other activities and goals which they find profitable rather than pursuing sustainable and efficient resource use. In many studies informal CPR institutions and private property rights are found to be equally operational at field level (Poteete, Janssen, and Ostrom 2010, 51).

It is argued that users of common property resources are more likely to achieve sustainable management under three conditions: secure tenure rights of the users over the resources, secure membership in the groups that determine rules which

[13] A property right is defined as "the capacity to call upon the collective to stand behind one's claim to a benefit stream (Bromley 1991, 15).

assure continued access and use rights, and effective institutions to regulate and manage the use of resources over time under agreed rules (McCulloch, Meinzen-Dick, and Hazell 1998, 12). In any common property regime, environmental resources are shared by users, who are the members of that particular resource system, which is generally regulated by either government legislation or through the customary practices (Bromley and Cernea 1989). When any individual has a legal right to some resource, the benefit arising from that particular resource system is guaranteed by the state with some rules and regulations. Rights are seen not only as a relationship between the appropriator and the resource itself, but in terms of the relationship of the individual appropriator with other potential users of a particular resource (Bromley 1992, 15).

Common property institutions have been treated as a set of rules that define access, withdrawal, exclusion, management, and alienation, in respect to particular resources (Schlager and Ostrom 1992, 250-251). Prominent scholars on the commons have suggested a number of factors which are essential elements for the successful management of the commons[14]. Based on a range of case studies, Ostrom proposes eight design principles for the success of any CPR governing institution. Seven of the design principles apply to small scale long-enduring CPR institutions and an eighth condition is needed for CPRs that are part of a larger system. The design principles that Ostrom identified for successful collective action are see Table 2.1):

[14] See Ostrom (1990: 90); Wade (1988: 215-216); Balland and Platteau (1996: 215).

Table 2.1: Design Principles for Successful Management of a Commons

Design Principles for Successful Management of a Commons	
i.	clearly defined boundaries (the first step in organizing collective action; users of the CPR need to know who are the users who have a stake in the resource, and also what is being managed with respect to geographical boundaries and rules of acceptable behaviour);
ii.	proportional equivalence between benefits and costs (rules governing the amount of products that the user is allowed to appropriate are related to local conditions, as are rules requiring labour, materials, and or money);
iii.	collective choice arrangements (those affected by operational rules can participate and modify the rules overtime to better suit the local circumstances and needs);
iv.	monitoring (those who actively audit CPR conditions and appropriator behaviours are accountable to the appropriators or are the appropriators);
v.	graduated sanctions (appropriators who violate operational rules in use are likely to receive graduated sanctions [depending on the seriousness and context of the offences] from other users, from officials accountable to these users, or from both);
vi.	conflict-resolution mechanisms (users and their officials have rapid access to low-cost local arenas to resolve conflict among resource users or between appropriators and officials);
vii.	recognition of rights to organize (the rights of users to devise their own institutions are not challenged by external governmental authorities); and
viii.	nested enterprises[15] (appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises).

Source: (Ostrom 1990, 90)

The design principles that Ostrom has suggested are critical for maintaining the sustainability of common-pool resource institutions and the resource itself. By following these principles the users of any CPR institutions can maintain, improve and use the resources sustainably for their livelihoods and well-being. In regard to management of common-pool resources (CPR), (Schlager and Ostrom 1992, 250-151)[16] identified two types of property rights: operational level property rights (access and withdrawal) and collective-choice property rights (management, exclusion and alienation). According to Schlager and Ostrom (1992, 250-251) operational level property rights refer to *"access"* rights to enter a defined property, and *"withdrawal"* rights to acquire resources from the system. The collective-choice property rights involve *"management"* – the authority over devising internal management and use patterns; *"exclusion"* – rights to determine access and transfer of such rights; and "alienation" – the right to sell or lease any of the above four rights. It is argued that collective-choice

[15] For detail, see, Ostrom (1990, 89-102).
[16] For detail, see, (Agrawal and Ostrom 2001; Schlager and Ostrom 1992)

rights are ultimately more important than operational-level rights, as the former rights depend for their authority on the latter. Based on the work of Ostrom (1990) and Wade (1988) four major variables (and many sub-variables within each) are set out by Agrawal (2008, 51) as facilitating conditions for the emergence of effective commons institutions:

i. Resource system characteristics (small size, well defined boundaries)
ii. Group characteristics (small size, clearly defined boundaries, shared norms, past successful experiences, social capital, appropriate leadership, interdependence of group members, and heterogeneity of endowments, homogeneity of identities and interests)
iii. Institutional arrangements (locally devised, easy to understand and enforce rules, graduated sanctions, availability of low-cost adjudication, and accountability of monitors and other officials to users); and
iv. External environment (State respect for local authority, supportive external sanctioning institutions, appropriate levels of external aid to compensate local users for conservation activities, nested levels of appropriation, provision, enforcement, and governance)

Property rights over CPRs strongly affect the adoption of technology, socio-economic development, poverty reduction, rights of access to credit, benefit sharing and environmental sustainability of the resource base (Knox, Meinzen-Dick, and Hazell 2002, 12). Common property rights over natural resources and capacity for collective action are closely interdependent and mutually reinforcing. Secure property rights not only encourage a long-term perspective on collective action for protection of the CPR, but also improve the self confidence of the resource users (Ostrom 2004). Among scholars, there is general agreement over the importance of clearly defined property rights in the management of CPRs. The issue is who will hold those rights (Bromley 1991, 35).

2.2.1. Common Property Institutions and Decentralized Governance

Decentralization and devolution of management authority have been the primary policy response to the failure of centralized resource management systems and the resurgence of democratic movements in the developing world (Dietz et al. 2002, 24). In recent years, developing countries have been encouraged to focus their attention on local institutions by decentralizing the governance of natural resources (Agrawal 2002, 41).

With the advent and consolidation of democratic political systems in many developing countries, there has been a growing concern over the need to link sustainable management of environmental resources with a focus on poverty alleviation, local level economic development and conservation (Adhikari 2003, 14). This political reform agenda has contributed to a reconsideration of the role of community in local resource management (Agrawal and Gibson 1999, 629). In the changed context of growing pressure on the finite natural resource base, mainly through increasing population pressure and consumption demands, there was a realization of the need to strengthen resource management systems. It is now recognized that a new form of coordination is required in natural resource management, since neither bureaucratic administration nor market mechanisms proved able to solve resource degradation problems in an equitable manner (Lockwood et al. 2009, 3; Dietz et al. 2002, 25; Korten 1987, 1). Now there is an understanding that multiple institutional strategies are needed to address the problem of diverse threats to the global commons. Restructuring of institutional arrangements governing CPRs has been initiated that has significantly re-defined the role of the state, and instigated further exploration and experimentation with different modes of co-management and community-based arrangements involving both state and non-state actors (Meynen and Doornbos 2004, 235).

Poor economic development and conservation outcomes from decades of centralized resource management systems led to renewed interest of policy makers and academics in the study of traditional resource governing institutions (Berkes and Farvar 1989, 2). New policy approaches aimed to develop a dynamic resource management partnership based on the capacity and interest of

local communities and complemented by facilitating state policy and institutional arrangements (Korten 1987, 2). This approach responded to arguments that it is the right of local people to benefit from their surrounding environmental resources, and that the community based resource management approach would be more effective (Korten 1987, 3). Since governments in many developing countries lack the power to deliver appropriate policies and programs under conventional top-down governance structures, there has been a major shift in resource politics over recent decades. In particular, there has been a great interest in reconfiguring natural resource governance relations between the state and forest communities throughout the world. A wide range of policies, programs and projects has experimented with the concept of community-based natural resources management (CBNRM) to achieve this aim (Menzies 2007, 10).

2.3. Emergence of Community-Based Natural Resource Management (CBNRM)

Community-based natural resource management (CBNRM)[17] programs were initiated in the late 1970s, mainly due to failure of conventional centralized governance structures to solve the issue of resource degradation and the growing demand for greater control and autonomy over natural resources by local people marginalized by former state policies (Menon et al. 2007, 4; Persoon and van Est 2003, 1). Since then, approaches to resource tenure systems and property rights regimes have undergone a fundamental change. A major policy shift has been initiated in developing countries via decentralized institutional arrangements that attempt to incorporate local communities in resource management (Agrawal and Ribot 1999). Since the 1990s, co-management (CM) and community-based natural resource management (CBNRM)[18] have become popular natural resource

[17] Agrawal and Gibson (2001, 1) define 'community' as a small spatial unit, a relatively homogenous social structure holding shared norms.

[18] Defining community based-natural resource management (CBNRM) is not an easy task as the term is used in a broad set of resource management initiatives in different discipline by different scholars. The decentralization and devolution of natural resource initiatives have been identified by various terms including co-management (Plummer and Fitzgibbon 2004, 2006; Pomeroy and Rivera-Guieb 2006); community-based management (Tachibama and Adhikari, 2009); people-centred conservation (Brown, 2003); common property resource management (CPRM); participatory management; collaborative management (Menon, 2007: 14); democratic decentralization of natural resources (Ribot et al, 2002, 3-4);

approaches in developing countries (Menon et al. 2007, 1; Kumar 2005, 275). These newly evolved community-based governance initiatives open up an avenue of opportunities for collaboration between citizens and the government to further their respective interests (Brunner and Steelman 2005, 19). By the 1990s, the CBNRM approach was largely adopted in development endeavours in Asia regions, more specifically in common property resources (CPRs) management initiatives covering forests, water management, and fisheries (Agrawal and Ribot 1999; Singleton 2000, 1).

CBNRM is the collective management of environmental resources by devolving or decentralizing the authority over resources to local communities for management, use and improvement (Fabricius and Collins 2007, 84). It is argued that CBNRM brings transparency to the decision-making process and promotes public vigilance and accountability, ensures effectiveness of development, and promotes social justice and environmental sustainability (Menon et al. 2007, 1-2). The advocates of natural resource decentralization argue that local people's ownership of resource management responsibility not only enhances efficiency and equity but also contributes to development that is socially and environmentally sustainable (Ribot, Agrawal, and Larson 2006, 1865)[19]. It is expected that decentralized governance will be cheaper, more effective and responsive to the needs of people (Carlsson and Sandström 2008, 37; Colfer, Dahal, and Moeliono 2008), increasing accountability and societal participation while reinforcing co-governance (Ackerman 2004, 448-58). Heavy expectations were placed on CBNRM, which represented a shift away from a government-driven to community-driven paradigm of resource management that would give voice to local communities and lead to their empowerment (Menon et al. 2007, 4).

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community based forest management (Agrawal and Ostrom 2008, 44-48), and co-management of natural resources (Persoon and van Est 2003, 1).

[19] While there is a broad consensus in the commons literature that equity is a critical component of sustainable development, there is no consensus about what it is. Beyond referring to general notions of fairness (Konow 2001), equity is mostly concerned with procedural justice (participation in decision making) or distributive justice (allocation of outcomes), which changes over time and is likely to vary across communities, issues and contexts ((Dobson 1998; Konow 2001, 139; Corbera, Brown, and Adger 2007). Equity is generally concerned with distribution of socio-economic factors, goods and benefits to a member of the society based on the agreed criteria, rules and norms (Dobson 1998), and it is argued that equity needs to be looked at from three perspectives: i.e., equity in access (engagement and participation of the participants), equity in decision-making (voice of the participants in decision making) and equity in outcome (distribution of project costs and benefits (Brown and Corbera 2003)

The CBNRM approach gained impetus through the advancement of common property theory. It is argued that community based natural resource management (CBNRM) has three attributes which make it potentially more successful in lieu of centrally controlled development (Menon et al. 2007, 8). Firstly, communities are socio-ecologically diverse, reflecting wide varieties of natural resources and community/individual preferences that make the wider system potentially more adaptive due to its diversity and geographically diffuse decision-making processes. In contrast, a centralized system that functions according to rigid and standardized rules is likely to be less capable of responding and adapting in the context of social or ecological change; nor is it able to deal with the specific need and preferences of local people. Secondly, community based management employs available local resources (materials, equipment, skill, and manpower) that make the project and programmes cheaper and facilitate effective conservation. In contrast, central government led programmes depend entirely on outside resources that make development more expensive. Thirdly, where the local community has control over decisions and outcomes, this ought to increase performance and local accountability. While decisions made and activities undertaken by the central government are accountable only to their superiors, local people who are affected by the outcomes of state interventions have difficulty influencing distant bureaucracies. In summary, CBNRM is based on several premises: that the local populace have more interest than state authorities or distant project management teams in sustainable management of local natural resources; have more locality specific socio-ecological knowledge and skills, and thus have greater incentives to maintain the resource because of their livelihood dependency, and are more likely to be effective in the management and use of resources as they posses traditional knowledge, institutions, and social capital (Tsing, Brosius, and Zerner 2005, 1; Borrini-Feyerabend and Tarnowski 2005, 74-75; The World Bank 1996; Meinzen-Dick, Raju, and Gulati 2002, 650).

Co-management and CBNRM approaches are now widely practiced in the Asian region in the form of joint forest management in India, community forestry in Nepal, and National Integrated Protected Areas System (NIPAS) on resource management in Philippines. The Indonesian government is also in the process of

introducing social forestry policies and recognizing local community authority in forest management (Persoon and van Est 2003, 4). International agencies and donors such as the World Bank, European Union (EU), and Asian Development Bank (ADB) have been advocating the co-management approach in their policy agendas (Persoon and van Est 2003, 4). A shift in paradigm in forest policy around the world initiated the process of devolving the authority of forest management from centralized government to either local government or to local communities. However, as these communities are often divided by gender, caste, and class there is also some scepticism about whether the decentralization of power and authority in itself could ensure greater community control over resources and equality in the distribution of the benefits (Potter 2008, 23; Larson and Soto 2008, 231). For these and other reasons, international agencies have been more inclined to advocate the co-management approach in their policy agendas, rather than CBNRM, emphasising a continued need for the role of the state in setting conservation parameters (Persoon and van Est 2003, 4).

2.3.1. Co-management (CM) versus Community-Based Natural Resource Management (CBNRM)

The terms ‘co-management’ and ‘community-based management’ are frequently used in the literature and there is a debate over the relative merit of these two concepts. Co-management is a hybrid regime that combines state and local community institutions. It is held to be a logical management approach for solving the problem of common property resource degradation through a partnership between the state and local resource users (Carlsson and Berkes 2005, 71; Pomeroy and Rivera-Guieb 2006, 31; Singleton 2000, 6). Co-management refers to joint state-local arrangements described variously as collaborative, participatory, stakeholder, multi-party and joint management in the literature[20]. Due to the flexible and dynamic approach of co-management arrangements, the concept covers a range of variations[21]. Co-management is

[20] See for example, Soeftestad and Gerrard (1999); Borrini-Feyerabend et al (2004); Carlsson and Berkes (2005); (Berkes, George, and Preston 1991; Berkes 1995); Plummer and Fitzgibbon (2004); Pomeray and Rivera-Guieb (2006).

[21] Co-management is defined as “the sharing of power and responsibility between the government and local resource users” (Berkes, George, and Preston 1991, 12; Berkes and Farvar 1989). Moreover, “'co - management' is also defines “as a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources” (Borrini-Feyerabend, Nguinguiri, and Ndangang

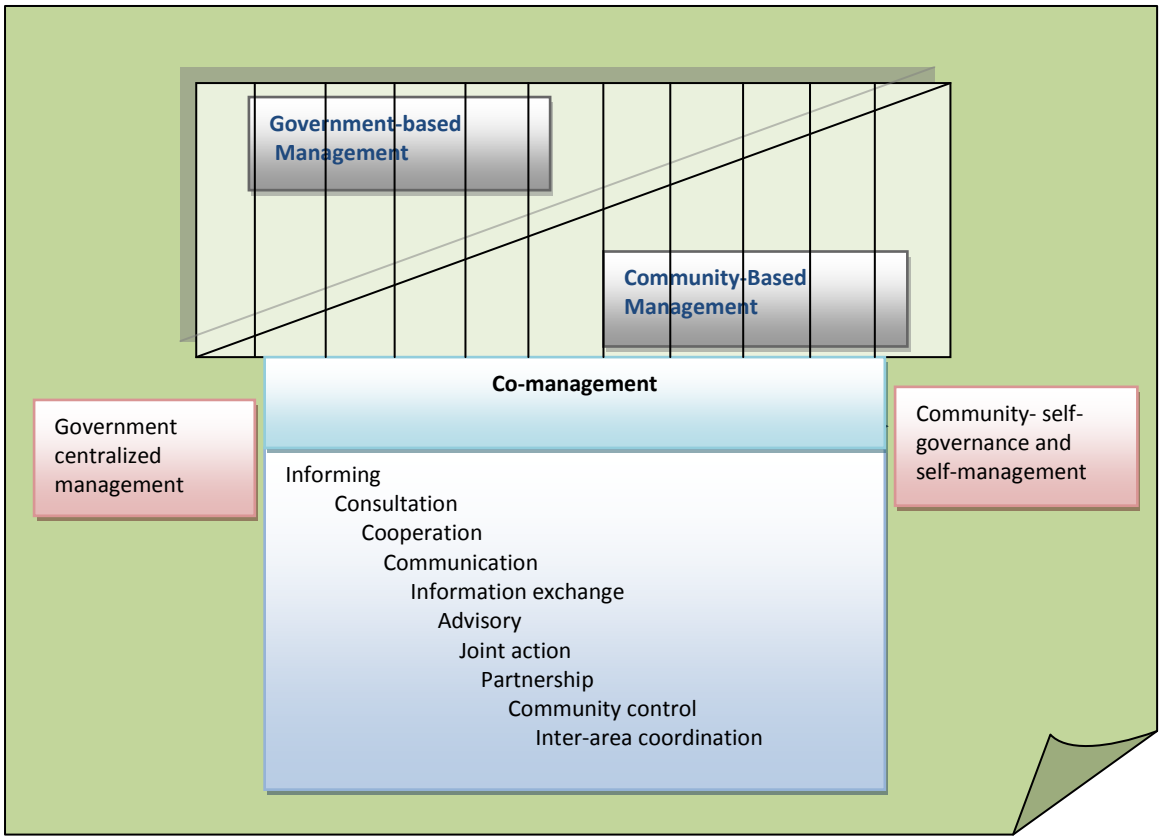
viewed as a logical approach for solving the resource management problems of CPRs, as it is evident that both the state and local resource users cannot manage the natural resources alone, especially in the changing and complex contemporary world (Carlsson and Berkes 2005, 71). It is argued that co-management enables improved governance of common property resources in a way that is both more equitable and more efficient (Armitage, Berkes, and Doubleday 2007, 3), and that decentralization and co-management are mutually supportive of each other. Co-management empowers local communities in common property resource management, while creating linkages between local, national and international spheres (Soeftestad and Gerrard 1999, 11) with potential for synergies and feedback across levels of governance (Berkes and Jolly 2002). In the co-management process various stakeholders, including local resource users (informal, traditional, customary), state, NGOs, civil society organizations, academic and research organizations share the responsibility and authority of management based on dialogue and negotiation (Pomeroy and Rivera-Guieb 2006, 16). The decision regarding what kind and how much duty and power ought to be allocated to local level community organizations is a political decision that depends heavily on the relationships between state and non-state actors.

Co-management deals with the collective governance of common property resources (CPRs) for the sustainable use and management of the collective goods. This governance arrangement is located part-way between pure state property and pure communal property regimes (Pomeroy and Rivera-Guieb 2006, 13), with various forms of partnership and power sharing arrangements that integrate local (traditional, customary, and informal) and centralized management systems. Figure 2.1 shows that a wide range of management arrangements are possible in co-management between the extremes of

2000). Other scholars define co-management as "the sharing of responsibilities, rights and duties between the primary stakeholders, in particular, local communities and the nation state; a decentralized approach to decision making that involves the local users in the decision making process as equals with the nation-state" (Soeftestad and Gerrard 1999, 11). Among many definitions, co-management is also defined as "sharing of power, responsibilities and benefits with respect to the management of natural resources (including their exploitation and conservation) among government and individual or collective users" (Persoon and van Est 2003, 4).

centralized government and autonomous local management (Pomeroy and Rivera-Guieb 2006, 8) (Persoon and van Est 2003, 6) find that actual management regimes vary according to the willingness of the state to handover or devolve power to local communities and the nature of the community (size, cohesion, type of leadership, ethnicity) itself. Co-management should be viewed as a process rather than a strategy, as it evolves by adjusting and adapting to changing conditions over time (Pomeray and Rivera-Guieb 2006, 10)

Figure 2.1: Co-management Integrates Local and Centralized Government Management Systems



Source: Adapted from Pomeroy and Rivera-Guieb 2006, 9

It has been asserted that the aim of co-management in natural resource governance is to implement conservation and management policies and programs in a cost effective way by shifting the state's responsibility to local social actors and civil society (Borrini-Feyerabend et al. 2004, XXXII). Co-management is considered an intermediate path between objectives of social equity and efficiency (Pomeroy and Rivera-Guieb 2006, 18). Further, co-management is a response to the demand for active participation of local resource users in environmental management, which would contribute to conflict

resolution, democratic decision making and active participation of relevant stakeholders (Armitage, Berkes, and Doubleday 2007, 3).

There has been some confusion concerning the two concepts of co-management (CM) and community based resource management (CBRM), as many writers use the terms interchangeably. Both management strategies share many common attributes; however, there are some differences between these two approaches. Pomeroy and Rivera-Guieb (2006, 24) posit that CBNRM is more focussed on community process and provides more emphasis on the needs and knowledge-base of local people, while CM is more concerned with institutional partnership arrangements between government and local communities of resource users. In terms of scope, CM has a broader framework that addresses issues beyond the community scale (regional and national), engaging multiple stakeholders; while CBM focuses more directly on internal community dynamics. As major actors, government and communities also take on different degrees of primacy. Government plays a more active role in co-management arrangements, while the community has primary responsibility in community-based management (CBM) approaches. In community-based-management, the process is often initiated by the local community, and implemented in partnership with external agencies like GOs, NGOs and other private and civil society organizations. Multiple actors at different levels (local, regional, national) are involved alongside government in the management process in CM as well. But while there is also much emphasis given to the involvement of local stakeholders in the process, communities tend to be brought in at a later stage in the CM approach.

Co-management is a more formalized management approach evolved in developed countries like USA, Canada, Australia and New Zealand, and such arrangements are usually codified in national laws (Armitage 2007, 2), while community based management has evolved through programs in developing countries (Pomeroy and Rivera-Guieb 2006, 24). Recently some scholars have combined the terms in referring to community-based co-management. Pomeroy and Rivera-Guieb (2006, 24) argue that as the community is considered an important component of the co-management process, the term community-based co-management can be used to better indicate a management system which is

community focussed, populace oriented and based on shared management responsibilities, incorporating the elements of both co-management and community-based management.

2.4. Community-Based Forest Co-Management (CBFCM) as a New Mode of Governance

In the contemporary world, new modes of governance in general and of natural resource governance in particular, have become a key subject of debate (UNDP 1997a; Pierre and Peters 2000; Borrini-Feyerabend et al. 2004, XXXII). Until the early 1980s governments were regarded as the legitimate institutional embodiment of state sovereignty and the sole source of political and legal decision-making (Pierre and Peters 2000, 37). During the 1990s, the nation state was perceived to be a declining institutional force in the face of globalization and the prominence of neo-liberal deregulatory, free market ideology (Petrella 1996, 62). Since then, governments have been losing their policy autonomy to outside organizations at the same time as there has been strong resistance emerging from people disaffected by the discrepancy between costs and benefits of government (Peters 1996, 1). In the changing global order, governments lack the ability to achieve the necessary policy outcomes alone. Thus, the participation of non-state actors in policy formulation and implementation has been sought (Hogl, Nordbeck, and Pregernig 2008, 1). Now, the concepts of governance and good governance are seen as offering a new way of thinking about state capacities and the state-society relationship. In its simplest sense, governance is about "the interactions among structures, processes and traditions that determine how power is exercised, how decisions are taken on issues of public concern, and how citizens or other stakeholders have their say" (Graham, Amos, and Plumptre 2003, 1).

Much of the governance literature has disassociated itself from the old hierarchical top-down model of government towards "new modes of governance" which are flexible and enable horizontal modes of participation in decision-making among a myriad of actors (Smismans 2008, 874). Now the concept of governance denotes not only the government, but also other

institutions, including the private sector and civil society organizations (Cheema and Rondinelli 2007, 1). There is inevitably an ongoing struggle to find an appropriate balance between state and community (Singleton 2000, 1) in governance processes which are a fundamental determinant of economic, social and environmental outcomes and the well-being of society (Graham, Amos, and Plumptre 2003, 1). Good governance has become the focal point of human development and sustainability agendas (UNDP 1997a). The UNDP (1994) Initiative for Change states:

> The goal of governance initiatives should be to develop capacities that are needed to realize development that gives priority to the poor, advances women, sustains the environment and creates needed opportunities for employment and other livelihoods (cited in (UNDP 1997a)..

Governance is not only concerned with making policy, laws, rules and tools of implementation through vertical command-and-control structures articulated with horizontal organizational arrangements, but takes as a central concern the processes that public managers, civil society and concerned stakeholders use in shaping policy, its implementation and enforcement (Bingham, Nabatchi, and O'Leary 2005, 548). It is argued that development efforts are not achievable and sustainable without good governance (UNDP 1997b, xi). Good governance emphasizes creating a system that is participatory, transparent and accountable. Its success depends on the involvement of civil society organizations, as well as the private sector in partnership with government (UNDP 1997a; 1997b, 4). Moreover, it is argued that good governance promotes human rights, encourages public participation, wide representation in decision making, and empowerment of women, minorities and other disadvantaged groups (UNHCHR 2007, 9). In practice, it requires active public participation with formal government in shaping governance processes. The Good Governance international policy agenda aims to overcome governmental and administrative malpractice and de-legitimize non-democratic structures. In these processes, civil society and non-governmental organizations play a significant role in promoting good governance practice.

A normative concept of governance has unfolded and international organizations – including UNDP, World Bank and OECD – have developed principles of good

governance (Rametsteiner 2009, 146). The United Nations Development Programme (UNDP 1997a) under the "Governance and Sustainable Human Development, 1997" articulates a set of five principles of good governance i.e. legitimacy and voice, direction, performance, accountability and fairness. Under these five broad principles of good governance eight major characteristics of good governance have been recognized: accountable, transparent, responsive, equitable and inclusive, effective and efficient, follows the rule of law, participatory, and consensus oriented (UNDP 1997a).

The UNDP document states that the three domains of the governance – state, civil society and the private sector – have to work in harmony to achieve sustainable human development (UNDP 1997a). Good governance tries to reach broad consensus across differing interest groups, and aims to achieve a long term perspective based on the historical, cultural and social conditions to make effective and efficient use of available resources. Further, good governance aims to be accountable to the stakeholders. Decisions should be taken in a transparent way involving all stakeholders, and information should be made easily available to those who will be affected by any decision. Ultimately, good governance requires that benefits and costs are distributed fairly, and that community members have the opportunity to maintain and improve their well-being, with laws and regulations enforced impartially (UNDP 1997a).

In recent years, international donor organizations have been reiterating the need to improve governance in the political and economic domain as a pre-condition for development cooperation (Roy and Prasad 2007). The Council of the European Community in 1991 adopted a resolution on "Human Rights, Democracy and Development", which stipulated four conditions for achieving balanced and sustainable development in developing countries: human rights, democracy, reduction in military expenditure and good governance (Denters 1995, 308). This conditionality is also emphasized by Northern donors as a requirement for granting bilateral and multilateral development assistance (Raffer 1995, 343). Reflecting current trends toward "new modes of governance", governments in many countries are moving toward more participatory, inclusive and integrated practices to fulfil policy goals, where

public as well as private stakeholder actors are engaged (Hogl and Pregernig 2009, 1; Howlett and Rayner 2006, 170). The rapid social and environmental changes that have been taking place in the last few decades have magnified the challenges of sustainable resource governance (Chapin III 2009), thus the role of local community has been fore-grounded in local forest management. Community forestry, which has now become a popular strategy in forest management, has been evolving in the context of these new modes of governance concepts.

The centralization of authority over natural resources including forests has been a common feature in the Asian region under colonization, and continued in the post-colonial period (Webb 2008, 25). Many governments in the past nationalized the forests formerly owned and managed by local communities living near and around the forests, with an expectation that the centralization of forest resources would be more efficient, generate more revenue and provide long-term sustainability of the resource base. Within the span of a few decades however, productive forests that were under government control in many parts of the world became severely degraded. After the failure of centralized resource management regimes, a major shift toward decentralized institutional arrangements that attempt to incorporate local communities in resource management was initiated (Agrawal and Gibson 2001, 1).

Since the 1990s, experiments with various types of community based and co-managed regimes became popular in developing countries (Menon et al. 2007, 1; Kumar 2005, 275; Agrawal and Ribot 1999, 1; Singleton 2000, 1). The community-based forest management (CBFM) approach emerged as a result of the growing concerns of activists, policy makers and the general public over the issues of deforestation, good governance, accountability and the impact of globalization on local forest management (Menzies 2007, 101). Since the late 1980s many governments around the world reformed national laws in favour of deconcentration or administrative decentralization (transfers of power to local branches of the central state, such as administrators, or local technical line ministry agents), devolution (transfer of power from central government to any non-central government body — including local elected governments, NGOs,

customary authorities, private bodies and so forth), and delegation (transfer of public function to lower levels of government, public corporations, or any other authority outside of the regular political-administrative structure, to implement programs on behalf of a government agency) (Agrawal and Ribot 1999).

Many nations in the Asian region began reforming the forestry sector since the 1990s, by formulating new forest policies and legislation in favour of decentralization and devolution, providing greater roles, rights and responsibilities to local communities in forest management. There is a growing consensus that community-based forest co-management can reconcile the goals of social justice, equity, development, empowerment and environmental sustainability by transferring forest management into the hands of local communities (Gauld 2000, 229). Studies suggested that local communities could be successful in conserving and managing the local forest sustainably through their local institution (Bray and Klepeis 2005, 215). It is argued that if forest decentralization provided greater voice and participation to local people in resource management, it could contribute to greater community accountability, conflict resolution, control of corruption and improvement of the resource base (The World Bank 2008, 159).

In most cases, community forestry was initiated as a pilot project which later evolved into a national program, ultimately backed by forest regulations. The nature of forest policy innovation differed from country to country depending upon the political environment, existing institutions, influence of donor agencies and existing legal instruments (Poffenberger 2006, 63). These community-based resource management initiatives were given further impetus with the adoption of decentralization and devolution policies in forest management (Poffenberger 2006, 62).

Envisaging that community involvement would lead to improved rights of access, and reduction of poverty in forest dependent rural communities as well as more sustainable rural development (Menzies 2007, 104), decentralized forest governance became a popular theme in the forest sector. According to Contreras-Hermosilla, Gregersen and White (2008):

> "Forest governance" is defined as the set of rules and institutions that control and determine what happens to a nation's forests and who gains and who gets hurt as a consequence. "Good" forest governance is governance that best meets, in a transparent, equitable and sustainable way, the forest related needs and goals of the population of the country and its constituent parts. Forest governance is about who holds power, who is responsible and how accountable decision makers are to citizens and to each other (Contreras-Hermosilla, Gregersen, and White 2008, 11).

At the international level, the debate on community forests was launched with the 1978 World Forestry Congress, under the theme "Forestry for People", with an idea that forests should be managed to meet people's needs, especially the needs of rural poor (Colchester et al. 2003, 1; Guggenheim and Spears 1985, 305). In 1985, the Food and Agriculture Organization of the United Nations (FAO) launched a "Tropical Forestry Action Plan" and a draft convention on forests was disseminated for discussion (Pfeil and Sepp 2008, 7). After the publication of the Brundtland report in 1987, natural resource governance and conservation came to the forefront of the international agenda, which began to link social, economic and environmental aspects into the concept of "Sustainable Development" (Pulzl and Rametsteiner 2002). Deforestation of tropical forests stemmed from several causes, primarily expansion of agriculture, commercial logging, rising demand for timber and fuel wood for the rising population and unsustainable forest policy (Palo 2000, 3; Palo, Lehto, and Uusivuori 2000, 120; Jepma 1995, 259). However, there was an assumption at the international level that deforestation could be reversed by addressing rural poverty, alongside policy reform in the agriculture sector mainly through watershed management programs and promoting tree planting on degraded and marginal lands (Guggenheim and Spears 1985, 307). In line with these argument international donors including the World Bank revised their forest sector policy and moved their focus from the industrial forestry of the 1970s to social forestry from the 1980s onward (Guggenheim and Spears 1985, 308). At the Earth Summit of

1992 in Rio de Janeiro**,** Chapter 11 of Agenda 21, a non-legally binding Forest Principle, was adopted under the heading "Combating Deforestation". It aimed to conserve, rehabilitate and manage forests and strengthen sustainable forest management (SFM) practices worldwide. Similarly, the 1995 United Nations Commission on Sustainable Development (UNCSD) created an Intergovernmental Panel on Forests (IPF) and in 1997 the Intergovernmental Forum on Forests (IFF) was established to facilitate deliberations on forest policy worldwide (Pulzl and Rametsteiner 2002, 260). The international dialogue on forest policy and conservation gained momentum after the establishment of a separate "United Nations Forum on Forests" (UNFF). In 2007, the UNFF adopted a non-legally Binding Instrument (NLBI) calling for policies on all types of forest through 2015 which would: (UN 2007, 5):

i. Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation.
ii. Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest dependent people.
iii. Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests.
iv. Reverse the decline in official development assistance for sustainable forest management and mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management. (UN 2007, 5)

Policies adopted at the international level since the 1980s were directed toward sustainable forest management and emphasis was laid on heterarchical modes of governance, a deliberative and consensus oriented approach involving a myriad of stakeholders in forest management (Pulzl and Rametsteiner 2002, 262). Most of the countries around the world adopted participatory approaches to forest management in this period. With the rise of discourses of sustainable development and good governance, community-based forest co-management (CBFCM) gained increasing attention on the development agenda (Menzies

2007, 13). Forest governance has to be seen as a dynamic and complex process linking local to global level. Forest governance is affected by the policies, legal instruments and institutional conditions at the local level (community rules, norms and governance mechanism of forest use), national level (state policy and law on forest resource rights, utilization, conservation) and global level (multilateral environmental agreements affecting forest products trade, national obligations, and conditionalities) (Mayers, Bass, and Macqueen 2002, 9).

Decentralized forest governance sought to shift administrative responsibilities from the centre to the regional, district and field levels (Agrawal and Ribot 1999, 475). New modes of governance in decentralized forest management regard citizens as important actors in policy making (Ribot 2002b, 27; Ribot 2004, I; Borrini-Feyerabend and Tarnowski 2005, 82). Because of the prominent role that forest resources play in the livelihoods of rural communities, new modes of decentralized forest governance have been advocated to enhance local people's leverage in the decision making process. It is reported that more than 80% of developing countries and countries in transition have already adopted some form of decentralized forest governance, transferring varying degrees of authority over forests to local communities (The World Bank 2008, 159).

Good forest governance depends on many conditions including the state's role in enabling policy, legal and institutional arrangements that determine how the community forest institutions organize, develop and enforce rules, provide access to resources and distribute benefits among members (Mayers, Bass, and Macqueen 2002, 3). The new modes of community-based forest governance (CBFM) opened up a new space and opportunities for local communities to exercise control over communal forest land and resources, define their priorities and the means of achieving them in a sustainable manner (Ribot 2002a, 5). The new modes of governance have participatory features, involving all relevant stakeholders – public and private – and operate through a discourse of governance rather than government, engaging a diverse range of actors beyond the traditional governmental sphere.

Before the 1990s forest management was dominated by conventional top-down bureaucratic models. However, the new modes of forest governance which are emerging in recent times seek to involve communities directly in policy making and provision of collective goods and services and are therefore less hierarchical, prescriptive and rigid than the previous top-down command and control type regulation (de Burca and Scott 2004, 3-4). With financial assistance from donors, decentralization reform in the forest has moved from a project-based approach to an institution-based approach to a broader forest governance framework (Ribot 2002a, 5). Under these new modes of forest governance, local institutions and communities have gained legislative (rule making), executive (decision-making and implementation), and judiciary (conflict resolution) powers.

2.4.1. Emerging Issues in Community-Based Forest Co-management (CBFCM)

Although a fundamental shift has occurred in thinking as well as in practice regarding the ownership and control over forest resources, the questions of who benefits from the resources and where the decision-making power should be vested, remain contested issues in the community based approaches literature (WRI et al. 2005, 56). Studies conducted around the world on the issue of local forest governance suggest that devolution of power and authority does not automatically empower user groups. Outcomes depend upon the implications of internal social structures for collective control over decision making, and the extent to which poor and marginalized people are able to exercise authority and participate in benefit-sharing arrangements (Thoms 2008, 1461-62; Nguyen 2008, 187; Arora-Jonsson 2008, 62-63; Yasmi, Guernier, and Colfer 2009, 107). There is no guarantee either that the community's control and involvement will increase the effectiveness and sustainability of common-pool resources utilization more than under private or state control (Meinzen-Dick 2007, 15204; Nagendra 2007, 15223; Oyono 2005, 357; Malla 2000; Lachapelle, Smith, and McCool 2004, 8-9). The supposition that community-based management will lead to ecological restoration and improvement in people's livelihoods has been challenged (Tacconi 2007, 341; Dev and Adhikari 2007) and (Blaikie 2006, 1954) suggest that genuinely successful outcomes are rare.

While decentralized forest governance has many advantages over centralized control, there are some risks and challenges associated with decentralized forest governance that must be addressed (Contreras-Hermosilla, Gregersen, and White 2008, 12). Although the theoretical argument for decentralized forest management is persuasive, the actual outcomes of the devolution of power to community level have been mixed. Evidence of equitable distribution of benefits and organizational and environmental sustainability remains inconclusive (Agrawal and Ribot 1999; Mansuri and Rao 2004, 30; Kellert et al. 2000, 709; Ribot 1995, 1596; Ribot, Agrawal, and Larson 2006, 1881; Lane 2003, 291; Meinzen-Dick and Knox 1999, 45). Populist champions of the decentralized community-based approaches tend to treat communities as consensual homogenous entities capable of maintaining the resource base in a sustainable way, glossing over the implications of class, caste and gender inequalities (Leach, Mearns, and Scoones 1999, 242). Real communities are heterogeneous entities with structural inequalities that undermine the assumptions of equitable benefits assumed to be derived from collective action (Li 1999, 503; Meynen and Doornbos 2004, 239; Warren and McCarthy 2009, 13). The devolution of forest management authority does not empower disadvantaged community members automatically as they generally have limited education, organizational skill and limited roles in the governance process (Evans, Jong, and Cronkleton 2008, 2). Elite capture of benefits from decentralization of natural resources is widely reported and may lead to the emergence of conflict among stakeholders (Rosa et al. 2003, 27; Swallow, Meinzen-Dick, and Noordwijk 2005, 32; Yasmi, Guernier, and Colfer 2009, 107).

There are multiple levels of government and agencies involved in decentralized forest governance, with divergent, sometimes conflicting, interests, and often with unclear delineation of authority and inadequate resources, making it difficult to accomplish the desired objectives (The World Bank 2008, 159). Most cases of decentralized reform in the forest sector have been characterized by insufficient transfer of power to local institutions and retention of tight control by state agencies (Ribot 2002a). Forest governance by local people is also affected by changes in power structure within the government bureaucracy and

the reluctance of government agencies to cooperate in the changed environment. As the government depends upon royalties and its agents may also lose private rent-seeking opportunities, there are strong disincentives against effective transfer of power to local communities, as well as the difficulties of providing adequate financial and technical services to local institutions (Kaimowitz et al. 1998). Government officials are unwilling to share power with local communities, even when the power of forest governance is delegated by law, leaving local institutions insecure in the knowledge that devolved authority may be taken back easily by central government (Ribot 2004, 3). In practice, some of the basic aspects of decentralization, such as downward accountability and discretionary power, are found to be lacking in practice (Ribot, Agrawal, and Larson 2006, 1865). Some critics argue that co-management arrangements in the forest sector have further strengthened state control over resources policy, management and allocation of resources (Castro and Nielsen 2001, 229; Sarin et al. 2003, vi), and that it is not genuinely participatory when the agenda is pre-determined by the local arm of the central government forest authority (Sundar 2000, 255). Potter shows that in the name of decentralization policy, communities have been given only degraded land for management, while productive forests still remain under the control of central governments. When local people improve the status of degraded forest, there is no guarantee that they will ultimately receive the benefits, as the forests may be taken back by the state or the income from forest heavily taxed (Potter 2008, 23).

Decisions about the most valuable resources are kept with the state agency and only limited powers are delegated to local authority (Larson 2002). In India, under the Joint Forest Management scheme, the Forest Department prepares forest management plans and objectives, and communities are responsible for implementing those rules with little benefit and no authority over management and use. In the Philippines, authority over forest governance is decentralized to local/regional government. However, in reality communities have little authority and real control still lies with the central government (Guiang, Esguerra, and Bacalla 2008, 163). In Indonesia, after the end of Suharto regime in 1998, decentralization reforms were initiated. District governments (*kabupaten*) were given the new responsibility of issuing logging concessions including ‘Timber

Product Harvesting Permits' (IUPHHK) to small or medium state owned or private agencies with a limit of 50,000 ha, and 'Forest Product Harvesting Permits (HPHH)' that can be allocated to individuals, cooperatives and farmers associations with a limit of 100 hectares per permit (Yasmi, Guernier, and Colfer 2009, 99). However, these decentralized authorities to local governments have not produced the desired outcomes, as local elites often captured the benefits and district governments typically preferred income generation to sustainability criteria in allocating permits (Yasmi et al. 2005, 24; McCarthy 2004, 1216). It is argued that with inadequate checks and balances decentralized forest governance may lead to reduction in public revenue from the forestry sector, inadequate technical, institutional, and managerial capability within decentralized institutions, and the tendency to 'mine' the forest for immediate instead of long-term benefits. The World Bank (The World Bank 2008, 160) asserts that the potential benefits and risks associated with decentralized forest governance depend entirely upon the institutional context.

Debate remains centred on property rights and the appropriate mechanisms for checks and balances across and within scales. It is argued that property rights over resources are vital to the success of the community-based governance regime. Unless the benefits of natural resource conservation and management reach those who participate in the community forestry programs and lead to a general improvement in local livelihoods, the new modes of forest governance will be no more successful than older models (Newmann 2005, 189-90). Despite these shortcomings however, there is still a great deal of enthusiasm toward community based co-management in the policy sector (Leach, Mearns, and Scoones 1999, 242). It is necessary to direct future research towards understanding the dynamics of property rights, and how these community-based co-management interventions alter the power relationship between the state and local resource users; and equally important to investigate which segments of society lose or gain in the process (Newmann 2005, 189).

2.5. Conclusion

Since the publication of Garrett Hardin's (1968) influential article "The Tragedy of the Commons", it was believed that common-pool resource users are typically trapped in an overuse dilemma where they find it difficult to regulate sustainable use (Ostrom 2009b, 26). Following the logic of Hardin's model, scholars argued that overuse of resources can be halted through government ownership (Ophuls 1973, 228) or privatization (Simmons, Smith, and Georgia 1996, 15). Until the mid-1980s many countries around the world formulated policies that centralized authority over natural resources, ignoring local people's capacity and experience in sustainable management of CPRs (Bromley 1992, 14; McKean 1992, 250; Berkes 1994, 19-20; Goodland, Ledec, and Webb 1989, :150; Persoon and van Est 2003, 2-3; Bromley and Cernea 1989, 1, 7). However, governments around the world have generally failed to conserve precious natural resources without the support and participation of local people (Chambers 1983; Mansuri and Rao 2004, 5). Alongside overexploitation on behalf of national and elite interests, the breakdown of traditional local institutions contributed to severe degradation of natural resources, in particular deforestation (Hutchings 2000; Berkes 1994, 19-20; Goodland, Ledec, and Webb 1989, 150; Persoon and van Est 2003, 3; Bromley and Cernea 1989, 7), which had negative impacts on the livelihoods of local people (Dietz et al. 2002, 13).

Since the failure of development interventions and poor conservation outcomes from centralized natural resource governance, there has been great interest in the study of traditional resource governing institutions (Bromley and Cernea 1989, 5; Berkes and Farvar 1989, 2; Agrawal 2008, 46; Agrawal and Gibson 2001, 1). Hardin's allegory of the tragedy of the commons was criticized and revised (Bromley 1992; Wade 1987, 95; Ostrom 1990; Bromley and Cernea 1989, 6-7) as numerous studies conducted around the world suggested that CPRs could be held collectively and managed sustainably through local self-governing institutions (Ostrom and Gardner 1993, 2; McKean 1992, 247; Ostrom 1990; Berkes and Farvar 1989; Ostrom 1992; Agrawal 2007; Poteete, Janssen, and Ostrom 2010, 31; Jodha 1986, 1169; Kassa et al. 2009, 1022).

Recognizing the role of community (Agrawal and Gibson 1999, 629) and local resource governing institutions in the management of CPRs, governments were encouraged to reform their policies and promote local initiatives and self governance (Korten 1987, 4; Menon et al. 2007, 8). Interest turned to the study of common property institutions: how they regulate access and use of CPRs (Agrawal 2002, 43), shape patterns of human behaviour and determine outcomes of resource management (Ostrom 1992, 24; Dietz, Ostrom, and Stern 2003, 1907). In defence of local people's rights over their surrounding environmental resources and the need to restore local governance arrangements, revisionist scholars argued that community-based resource management was more effective because of its participatory features (Korten 1987, 2-3), enabling greater public accountability and transparency in decision making, and the potential to combine equity with environmental sustainability (Menon et al. 2007, 1-2; Ribot, Agrawal, and Larson 2006, 1865). Since the late 1970s, CBNRM programs were initiated (Menon et al. 2007, 4; Persoon and van Est 2003, 1) through decentralized institutional arrangements that attempted to incorporate local communities in resource management (Agrawal and Ribot 1999). By the 1990s, a range of co-management (CM) and community-based natural resource management (CBNRM) approaches had become popular policies in developing countries (Menon et al. 2007, 1; Kumar 2005, 275). The CBNRM and CM approaches involved power sharing and partnership arrangements between the state and local resource users (Singleton 2000, 6; Carlsson and Berkes 2005, 71; Pomeroy and Rivera-Guieb 2006, 31). Ideally, nested governance and decentralized resource management involving state and non-state actors would contribute to more democratic decision making, more equitable distribution of benefits and better environmental management (Armitage, Berkes, and Doubleday 2007, 3).

In the conventional governance approach, governments had been considered the only legitimate institutions of political and legal decision-making (Pierre and Peters 2000, 37); however, in the contemporary global order, participation of non-state actors in policy formulation and implementation has been sought (Hogl, Nordbeck, and Pregernig 2008, 1). In the process, preferred models of governance have shifted from hierarchical top-down frameworks towards "new

modes of governance" which are flexible and heterarchical, in which a wider group of actors can play a role in more horizontal modes of governance (Smismans 2008, 874). In the sphere of resource management these reformist efforts aim to reach broad consensus across differing interest groups, to adopt a long-term perspective based on historical, cultural and social conditions, and to serve stakeholders in a more responsive way (UNDP 1997a).

Despite the enthusiasm towards community-based forest management and co-management alternatives, empirical studies suggest that the actual outcomes of the devolution of power to communities has had mixed results, especially with respect to the issues of equity, empowerment and environmental sustainability (Agrawal and Ribot 1999; Mansuri and Rao 2004, 30; Kellert et al. 2000, 709; Ribot 1995, 1596; Ribot, Agrawal, and Larson 2006, 1881; Lane 2003, 291; Meinzen-Dick and Knox 1999, 45). Studies show that the devolution of power and authority to lower levels of government does not automatically empower user groups (Meinzen-Dick 2007, 15204; Nagendra 2007, 15223). Many factors affect the success of community-based resource management initiatives, including internal social-economic inequalities which affect poor and marginalized people's access to decision-making and benefit-sharing mechanisms (Thoms 2008, 1461-62; Lachapelle, Smith, and McCool 2004, 8-9; Nguyen 2008, 187; Arora-Jonsson 2008, 62-63; Yasmi, Guernier, and Colfer 2009, 107). Conservation outcomes in some cases were also found to be unsatisfactory (Oyono 2005, 357; Malla 2000; Tacconi 2007, 341). The main reason for the failure of many of these community-based resource management efforts is that there has been a tendency to treat communities as homogenous entities, ignoring the structural inequalities and differing interests of various social groups (Warren and McCarthy 2009, 13; Meynen and Doornbos 2004, 239; Leach, Mearns, and Scoones 1999, 242; Li 1999, 503).

Research suggests that positive outcomes in decentralized natural resource governance are unlikely in the absence of the following conditions: effective democratic structures, secure tenure and access rights, clearly defined rights and responsibilities of forest users (WRI 2005, 55-57; Bromley and Cernea 1989, 22; Wade 1988, 217); straight-forward laws and regulations and participatory

decision making systems (WRI 2005, 55-77; Blair 2000, 35; Fiszbein 1997, 1040; Ginther 1995, 157; Tolentino 1995, 141); local institutions and decision makers downwardly accountable to resource users and to wider authorities (Ribot 2002a, 1; Agrawal and Ribot 1999, 2); technical capability of local institutions (Kaimowitz et al. 1998, 58); adequate financial resources (Fiszbein 1997, 1040; Fabricius and Collins 2007, 83); and effective outcome assessment, strong and fair governance arrangements, and a focus on institutional and capacity development at local, regional and national level (Agrawal, Chhatre, and Hardin 2008b, 1462; Shimizu 2006, 31; Ribot 2002a, 6; Bowling and Maginnis 2003, 1).

In the new millennium, sustainable resource governance is a complex task, and achieving the goals of social equity and environmental sustainability presents a formidable challenge from local to global scale (Warren and McCarthy 2009, 8). Good forest governance practices depend upon legal and institutional arrangements that determine how community forest institutions organize, develop and enforce rules regarding access to resources and distribution of benefits among members, and how representative and accountable these institutional arrangements become in practice (Mayers, Bass, and Macqueen 2002, 3; Ribot 2002a, 5, 10; The World Bank 2008, 162). Discretionary authority in rule making, implementation and conflict resolution (Ribot 2002a, 6; The World Bank 2008, 151), and transfer of sufficient power, responsibility and resources to local communities, is likely to increase the success of community-based forest co-management (The World Bank 2008, 159; Ribot 2002a).

There is evidence that more equitable distribution of costs and benefits, and external support enhance the success of community-based forest co-management (Cronkleton et al. 2008, IV). However, too much involvement and control of higher state authorities in decision making processes may adversely affect forest co-governance outcomes (Agrawal and Chhatre 2007, 83). Agrawal and Gupta (2005, 1101) show that equity issues in decentralized forest governance can be achieved only through building institutional mechanisms that expand local capacity and experience, and through improvement in educational opportunities (Agrawal and Gupta 2005, 1101). The sustainability of community-based forest

co-management depends upon whether basic needs of the local community have been met by the community forest, whether the community is adequately involved in the decision making process, whether the resource governing institutions at every level represent local community interests (Colchester 2008, 69; Newmann 2005), and whether the intended benefits of forest management have reached the needy and improved their livelihoods (Newmann 2005, 189).

Both the government and Community Forest User Groups (CFUGs) in Nepal play an important role in the community-based forest co-management process. Government has a role in devising enabling policy, legal and institutional arrangements, while CFUGs have also to fulfil certain conditions, addressing the issues of equitable distribution of benefits among members, inclusive decision making, and maintaining environmental services (Mayers, Bass, and Macqueen 2002, 3; Ribot 2002a, 5, 10; The World Bank 2008, 162). The following chapters trace changes in policy toward community forest management in Nepal, where massive deforestation took place with the shift from traditional forest management regimes to centralized control with the nationalization of Nepal's forests in the 1950s (Mahat, Griffin, and Shepherd 1987b, 111). In attempts to reverse the situation, forests have been handed over to local forest user groups (CFUGs) under the Forest Act of 1993, which has granted these groups right of access, exclusion of non-members, and management rights, while ultimate authority over the forest regime lies with government.

Chapter 3

Political Conflict and Resource Governance in Nepal (1996-2006)

The goal of this chapter is to examine the political conflict which emerged in 1996 to provide a context for understanding resource governance and livelihood issues in the forest-dependent rural communities of Nepal. The chapter provides a historical overview of political processes and the people's struggle for democracy, considering in the process the socio-political and economic disparities among social groups and between geographic regions that led to the conflict. The chapter in particular deals with the emergence of the communist movement and armed conflict in Nepal, which had significant socio-economic and environmental impacts.

3.1. Introduction

Nepal is one of the poorest countries in the world with a per capita income of US$ 386 per annum and is ranked 144th out of 182 countries in the Human Development Index (HDI) (ADB 2007, 3). According to World Bank estimates, in 1995/96, 41.8 % of the Nepalese population lived below poverty line. The situation was most acute in the countryside. Urban poverty in 1995-96 was half that of rural areas (CBS 2005, 13), and there were wide income gaps among different social groups; with high levels of poverty among lower caste and ethnic groups.[22] In 1998, the average annual per capita income of the Nepalese was only US$ 210. The distribution of income among Nepalese has been directly influenced by the discrepancy in distribution of assests (particularly land), income-earning opportunities and access to decision making processes. The top 10 % of the population receives 50 % of the national income, while the bottom 20% receive only 3.7% (Nepal South Asia Centre 1998, ii).

[22] Data show that in 1995/96, 57.8 %, 48.7 %, 53.4% of the *Dalits* (untouchables), Hill *Janjati* (ethnic group), and Terai *Janjati* (ethnic group) lived below the poverty line respectively, well above the national average of 41.8 %. In contrast, the incidence of poverty among the *Brahman/Chhetri* (higher caste) was only 18.4% (CBS 2005).

Women do not have equal access to property rights, which has a direct bearing on their access to education, health, nutrition and economic pursuits (Nepal South Asia Centre 1998, ii). Because of social exclusion low caste and ethnic minority groups, the poor, and women face severe barriers in socio-economic development, affecting health, nutrition and education; the key components of wellbeing and human resource development (Nepal South Asia Centre 1998, iii).

Nepal has a diverse population comprising 103 caste and ethnic groups, with more than 106 language and dialects, and following different religious traditions of Hinduism, Buddhism, Christianity and Islam (Pradhan and Shrestha 2005, 2). Nepalese society is rigidly hierarchical, entrenching pervasive social inequalities based on caste, ethnicity and gender. These differences are deeply rooted in culture, religion and practices built on centuries of feudal rule (USAID 2006). These forms of social discrimination persist and the state has failed to integrate the poor and disadvantaged groups of people into mainstream politics and development (Seddon and Hussein 2002, 2).

People living in remote mountains and hills have limited access to health services. There are significant differences in literacy rates among gender, castes and across physiographic zones. The 2006 Nepal Demographic and Health Survey (NDHS) show that the literacy rate is 54.5% and 81% among females and males respectively. The same study indicates that literacy rates are 80.7%, 47.35%, and 68.25% among *Bramhan/Chhetri* (higher caste), *Dalits* (lower caste) and *Janjatis* (ethnic groups) respectively. The literacy rate is 75.15% among people living in the mountains and 52.9% in the Terai/Madhesi (Ministry of Health and Population (MOHP), New ERA, and Macro International Inc 2007, 38-40). The under-five child mortality rate is high among *Dalits* as compared to *Brahman/Chhetri*. The NDHS 2006 survey shows that out of 1000 children born, under-five mortality is 76, 90, and 80 among *Brahman/Chhetri*, *Dalits* and *Janjatis* respectively; 77 among Hill/Mountain and 84 among Terai/Madesh communities (Ministry of Health and Population (MOHP), New ERA, and Macro International Inc 2007). At the same time, Nepal's population, which has more than quadrupled in the last century from 5.6 million in 1911 to

almost 28 million at present, has exerted tremendous pressure on the country's natural resources leading to degradation of forest and land resources.

3.2. Historical Overview of Political and Socio-Economic Setting and Struggle for Democracy

Nepal had been ruled as isolated principalities for centuries. These were unified in 1768 by King Prithivi Narayan Shah, the founder of modern Nepal, who defeated the Malla lords of Kathmandu Valley, creating a unified hereditary Monarchy (Joshi and Rose 1966, 23; Raj 1980, 9; Riaz and Basu 2007, 125). In the mid-nineteenth century, traditional monarchical rule was interrupted for a period of 104 years and Nepal came under the control of the Rana Family, who had strong ties to the royal court. The Rana regime gained power on September 14 1846, when Jung Bahadur Kunwar secretly organized the *kot massacre*, killing his opponents, and was immediately made Prime Minister and Commander in Chief of the army by King Rajendra (Joshi and Rose 1966, 31). While confining the King to the Royal Palace and keeping strict surveillance over royal activities, the Rana regime maintained effective political control over the civil and military administration. During the Rana regime the national treasury was treated as private income and the government functioned largely as an instrument to fulfil the personal interests of the Prime Minister and a handful of Rana family members (Joshi and Rose 1966, 38-39). During much of the Rana regime the ruling Rana family maintained close ties with the British Raj in India to secure its political power.

After the fall of British rule in India and inspired by the nationalist movement, a group of Nepali political exiles in Banaras, India established two political parties – the *Nepali Rashtriya Congress* (Nepali National Congress) in October, 1946 and the *Nepal Prajatantrik Congress* (Nepal Democratic Congress) in 1948, which merged in 1950 to form the Nepali Congress Party (Joshi and Rose 1966, 70-71). The Nepal Democratic Congress had earlier established the *Mukti Sena* (Liberation Army) that took part in the 1950 revolution. A Communist Party of Nepal was established as well in 1949 to struggle against the autocratic Rana regime, feudalism and imperialism. As opposition against the regime was on the

rise, the Rana government extended diplomatic relations with the United States, France, the Netherlands, Brazil, and Belgium. It also applied for membership of the United Nations in February 1949, to garner diplomatic support as a strategy to secure continued rule (Joshi and Rose 1966, 66-68). To dissipate the growing anti-Rana sentiment and resistance from political parties, Prime Minister Mohan Shamsher conferred on the people a written constitution in 1948, the first of its kind in Nepal's history (Joshi and Rose 1966, 71; Baral 2006, 18). Taking advantage of hostile relations between the then King Tribhuwan and the Rana regime, the Nepali Congress Party launched an armed struggle against the Rana government in 1950, which was supported by the king and the Nepalese people. The Nepal Communist Party also supported the anti Rana struggle. Finally, after 104 years the Rana oligarchy was overthrown under an agreement signed in Delhi between King Tribhuwan, Rana Prime Minister Mohan Shamsher and the Nepali Congress Party.

The "Delhi Compromise" reinstated the power of the monarchy on January 8, 1951 (Joshi and Rose 1966, 79). The 1951 Interim Government Act was promulgated as the basis for the new political order and on February 18, 1951 King Tribhuwan established an interim government with representatives of the Rana family and the Nepali Congress Party. The interim government was mandated to conduct elections for a Constituent Assembly and form a democratic constitution no later than 1952. However, the first interim government toppled because of rivalry between the Rana and the Nepali Congress Party representatives in the cabinet. So, the task of holding an election could not be completed on time. Then on November 16, 1951, a new government was formed by King Tribhuwan under the leadership of M. P. Koirala from the Nepali Congress Party. There was conflict within the Nepali Congress Party regarding the nomination of cabinet members and also because of differing ideas on social and political reform between leaders in the Nepali Congress Party (Joshi and Rose 1966, 98-101). In 1952, there were two revolts against the government – one by the special police forces and low-grade civil service employees and another by an armed faction known as *Rakshya Dal* (Defense Force). The revolt lead by Dr. K. I. Singh resulted in the capture of most of the government offices including the cabinet secretariat, radio station,

telephone office, prison and the artillery. However, the national army suppressed the revolt. In the aftermath, the government reorganized and modernized the national army with the help of the Indian Military Training Mission (Joshi and Rose 1966, 101).

As Nepal entered into a democratic era after centuries of autocratic rule, there were ongoing power struggles between the King, the Rana family and democratic forces. Despite the intense desire of the Nepalese people and political parties to transform Nepal from a feudalistic to a modern democratic system, the reform agenda was severely hindered by ideological differences between the parties. Nevertheless there were some improvements in political awareness, reform in the bureaucratic system and governance structure, including the formation of an independent judiciary. The major outcome of the post-revolutionary Rana-Congress coalition government was the initiation of a new political process, the formation of an interim constitution based on the premise of a constitutional monarchy, cabinet and modern administrative system.

After the death of King Tribhuwan on March 14, 1955, Crown Prince Mahendra became king and took charge of the nation. On accession to the throne, King Mahendra formed the Council of Royal Advisers headed by himself and announced a general election to be held in October 1957. Between 1956 and 1957 two governments were sworn in, one from *Praja Parishad* headed by Tanka Prasad Acharya, and the other in 1957 from the United Democratic Party under the leadership of K. I. Singh[23]. Since the 1951 revolution King Tribhuwan had favoured the constitutional monarchy type of political structure. However, his son King Mahendra took a different approach. During the formation of these two governments King Mahendra manipulated the political system, handpicking the parties to form the government, mostly from the minor parties which had less credibility and lacked support from the larger sections of the society. In that respect, the cabinet formed under the direction of King Mahendra was a puppet government. When there was delay in issuing the date of the postponed election,

[23] Dr. K. I. Singh initially was a member of Nepali Congress Party; however, in 1952 a revolt was led by him against the government by the armed faction known as *Rakshya Dal* (Defense Force). In 1957 he became Prime Minister of Nepal for four months as leader of the United Democratic Party. However, in 1981 he joined the breakaway Nepali Congress (Subarna).

the United Democratic Front launched a disobedience movement which the Communist Party of Nepal also supported (Joshi and Rose 1966, 210). The Communist Party of Nepal had been banned by the government after the 1951 revolution; a ban that was lifted by the Tanka Prasad Government in April 1956 (Joshi and Rose 1966, 262).

When Rana rule ended in February 1951 King Tribhuwan had promised the election of a Constituent Assembly no later than April 1953. However, this was prevented by differences among political parties, the absence of a national census, lack of fully fledged administrative machinery, and the unwillingness of the political parties that were in the government to have their credentials examined (Joshi and Rose 1966, 280). After his accession in power, King Mahendra had announced that the general election would be held in October 1957. During the period between 1953 and 1957 there was disagreement among the parties about whether to hold an election of the Parliament or Constituent Assembly.

Finally King Mahendra issued a Royal Proclamation stating that the delayed election would be held on 18 February 1959, for a bicameral Parliament rather than a Constituent Assembly (Joshi and Rose 1966, 281). One week before the election, on February 12, 1959, King Mahendra proclaimed a new constitution. This constitution was prepared by a Constitution Drafting Commission comprised of members of different political parties including the Nepali Congress, *Gorkha Parishad* and legal experts. The 1959 Constitution bestowed executive, judicial and legislative authority upon the Crown (Joshi and Rose 1966, 312), giving it final authority to approve or veto any action of the government and of the Parliament. The new constitution was heavily criticized by the Communist Party of Nepal, which labelled it feudalistic (Joshi and Rose 1966, 292).

The inaugural general election was conducted in 1959. Out of a total 109 seats in the Parliament, the Nepali Congress won 74 seats (absolute majority), Gorkha Parishad 19 seats, the United Democratic Party 5 seats, and the Community Party 4 seats. The eighteen Senators for the Upper House were nominated from

the parties on the basis of proportional representation (Joshi and Rose 1966, 299). On 27 May 1959 the leader of the Nepali Congress Party, Mr. B. P. Koirala, became the first elected Prime Minister. During the first year of tenure in the government, the Nepali Congress Party faced resistance from the National Democratic Front, a newly formed alliance between three political parties, the Nepal Praja Parishad, the United Democratic Party, and the Prajatantrik Mahasabha. Most of the prominent leaders of these parties had been defeated in the recent general election and were very critical of the Nepali Congress government. Their main accusation was that the government allowed foreign interference in Nepal's affairs, a criticism specifically directed towards India (Joshi and Rose 1966, 323-324).

When the Nepali Congress government signed the Gandak Irrigation and Power Project agreement[24] with India, the National Democratic Front organized a protest rally. The Front criticized this treaty for being against the interest of the Nepali people in failing to provide equal benefits. They also accused the government of compromising the territorial integrity of Nepal by handing over the Gandak project to India (Joshi and Rose 1966, 325-326). The Communist Party of Nepal independently organized protests against the Gandak agreement, demanding a new treaty with provision for joint management. The Communist party launched fierce criticism of the Nepali Congress government both from within the Parliament and outside of it. They were also critical of India's interference in Nepal's internal affairs (Joshi and Rose 1966, 330). The elected Nepali Congress Party government was under constant attack from the opposition and from members within its own ranks, provoking the King to exercise his extra-parliamentary power to dismiss the government and to take charge of the government himself.

During its tenure in office, the Nepali Congress-led government adopted a mixed economic strategy and abolished the *Birta*[25] land tenure system by promulgating the Birta Abolition Act on 17 September 1959. It also replaced the 1950 Trade

[24] The Gandak agreement was signed by the two countries on December 4, 1959 with the purpose of providing irrigation and production of electricity by constructing a barrage, canal and head regulator in the *Narayani* River near Tribeni Ghat Bhaisalotan in the Nawalparasi district of Nepal.
[25] *Birta* was a system of granting huge land parcel to members of the nobility and the aristocracy, and other privileges for erstwhile royals.

and Transit treaty with India which had prevented export or import of goods from countries other than India. Under the new treaty, Nepal could import and export from a third country using its own foreign exchange (Joshi and Rose 1966, 352).

Although the Nepali Congress-led government was attempting to implement some reforms, after a short nineteen months' tenure in office King Mahendra dissolved the parliament, dismantled the elected government, banned all the political parties and imprisoned the Prime Minister along with his cabinet colleagues on 15 December 1960 (Riaz and Basu 2007, 125; Muni 2004, 2). After the Royal takeover, the King formed a cabinet under his chairmanship and appointed the ministers from the Nepali Congress Party and independents. Following the royal coup King Mahendra promulgated a new constitution in 1962 and introduced the four-tier party-less *Panchayat* system[26]. The 1962 Constitution gave the king powers to dismiss any minister from office despite his credentials in the parliament. It clearly extended royal prerogatives beyond the 1959 Constitution with the king holding greater control over the National Panchayat and the Council of Ministers (Joshi and Rose 1966, 405).

King Mahendra and his successor King Birendra justified their political position claiming that the Panchayat system under royal patronage was the only political arrangement compatible with Nepali culture and civilization. During the

[26] Literally *panchas* means council of five persons and *panchayats* refers to a system of decision-making by the assembly of panchas which was prevalent in Nepali society from centuries. However, during the Rana regime it ceased to function (Joshi and Rose 1966, 397). The 1962 Constitution provides the theoretical foundation of a partyless *panchayat* democracy structure. The political units under the Panchayat regime were the *Gaon* (village), *Nagar* (town), *Zilla* (districts) one p*anchayat* for each of the seventy-five Development Districts, and fourteen *Anchal* (zonal) *panchayats* and at the highest level the *Rashtriya* (national) *panchayats* (Joshi and Rose 1966, 398). The panchayat system represented "democracy at the grassroots". The voters elect village councils then the District Assemblies are formed consisting of one member from each village *panchayat* and one third of the membership of each town *panchayats*. After the formation of District Assembly it elects an eleven-member Panchayat Committee that serves as an executive body in each district. Then the District Assembly elects *Anchal* (Zonal) panchayats and finally fourteen *Anchal* (Zonal) assemblies elect ninety members to the National Panchayat. There is also provision for 15 members to be elected from Five Class Organizations and four from the Graduate Assembly and 15% to be appointed by the King. The overall monitoring of the *panchyat* system is governed by the Panchayat Ministry at the centre (Joshi and Rose 1966, 401-402). In addition, the 1962 Constitution provides for a *Raj Sabha* (Council of State) appointed by the king as an advisory body whose main duties were to supervise the succession to the throne or establishment of the regency in the event of the king's death or incapacity and also to act in certain circumstances in case of national emergency, or in the constitutional amendment process. Tour Commissions were formed consisting of members from the military and judiciary to visit the districts, hear and respond to grievances on socio-economic issues, and also to expedite administrative and judicial cases in favour of innocent, poor, old and women by taking direct action against oppressors and also to establish direct contact between the His Majesty's Government and the general public.

Panchayat regime King Mahendra and his successor King Birendra were actively involved in national politics through the pro-monarchy, party-less Panchayat system. However, there was constant pressure and agitation from political parties, especially from the Nepali Congress and Nepal Communist Party to restore multiparty democracy. However, due to divided opinion and lack of coordination among the parties as well as the Hindu belief that the King is vested with divine authority for protecting traditional customs and religious harmony in the country, the struggle against direct rule was unsuccessful, and it continued for 30 years with various political experiments under both rulers. Throughout these years of Panchayat rule, the students' associations, journalists, and opposing political parties continued to struggle for democracy (Joshi and Rose 1966, 504).

In 1990 a people's movement forced King Birendra to call a national referendum offering the options of a "Reformed Panchayat" or "Multi-Party Democracy". The referendum result favoured the former by a margin of 10 %. Minor amendments were made to the constitution after the referendum incorporating some democratic ideals, but these were not sufficient to satisfy demands for full democracy. The Nepali Congress and United Left Front[27] (ULF) formed an alliance and staged a nationwide political protest against the party-less *Panchayat* system to restore multiparty democracy. These protests lead to the system's overthrow in 1990 and the formation of an interim government led by the Nepali Congress Party leader Krishna Prasad Bhattarai, with mandates to draft a new constitution and hold free and fair elections within a year. In the general election held in 1991, the Nepali Congress Party achieved an absolute majority and formed the government and the Communist Party of Nepal – Marxist Leninist (CPN-UML) became the biggest opposition party in the parliament. However, the elected government did not run its full term due to inter-party and intra-party conflict and conspiracy. There followed a series of elections and frequent changes in government that created political instability and a governance crisis. Between 1991 and 2005, 3 elections were held and the government changed 13 times (Riaz and Basu 2007, 124). The governments

[27] United Left Front (ULF) is the coalition of different communist Parties formed to fight against the party-less Panchayat Regime

formed after the 1991 general election were largely ineffective in addressing pressing socio-economic and governance issues. Those in political power did not attempt to launch any concrete steps towards transformation of the country, and political power remained in the hands of elites from higher socio-economic strata (USAID 2006).

3. 3. Evolution of the Communist Movement and Emergence of Armed Conflict in Nepal

During the later years of the Rana regime, many educated Nepalese who had contact with the outside world participated in the anti-British movement in India. The growing Communist movement in neighbouring China also attracted the educated youth of Nepal towards Marxism. In 1947, for the first time in the history of Nepal, a communist and socialist-led strike was held by workers in the Biratnagar Jute and Cloth Mill. The Communist Party of Nepal (CPN) was formally founded in Calcutta, India on April 29, 1949 under the leadership of Pushpa Lal Shrestha; the party's founding General Secretary. The main goals of the CPN were to struggle against the autocratic Rana regime and fight against feudalism and imperialism (Pyakurel 2007). The CPN played a significant role in toppling autocratic Rana rule. After the 1951 revolution, the Nepali Congress (NC) Party joined the Interim Government, while the CPN became critical and formed the United Front, an alliance of anti-NC parties (Pyakurel 2007, 61). Their main accusation was that the Nepali Congress Party had become pro-Indian, compromising Nepal's territorial integrity, independence, and national interest. After the revolt led by Dr. K. I. Singh, which aimed to overthrow the government, the CPN was banned on 24 January 1952. However, the four year ban was lifted in April 1956 under the Tanka Prasad Acharya government (Joshi and Rose 1966, 262).

In the years following its inception, the Community Party split and reunited numerous times due to fundamental disagreements within the party Politburo. There was polarization within the CPN over the December 1960 Royal coup. One faction of the CPN led by Keshar Jung Rayamajhi was less critical of the coup, calling for restoration of the fundamental rights of the people, the release

of political prisoners and election of a New Parliament. The other faction led by Pushpa Lal Shrestha, the founding General Secretary of the CPN, demanded reinstatement of the parliament and launched a struggle against the King (Joshi and Rose 1966, 450). Shrestha was replaced by Manmohan Adhikari, and later by Keshar Jung Raimajhi, while on a visit to China. There were fundamental differences in ideology as one group accepted the king as head of state, while the other favoured a republican order. The two groups were also split over the differences in ideological ground, one pro-Chinese and other pro-Russian sympathies (Pyakurel 2007, 61). At the 1961 Durbhanga Plenum, three positions were presented. The first position, in favour of working with the King, was led by Keshar Jung Rayamajhi; the second, arguing for struggle against the Royal coup while maintaining working ties with the Nepali Congress Party, was led by Pushpa Lal Shrestha; and the third, led by Mohan Bikram Singh, demanded a new election of the Constituent Assembly (Pyakurel 2007, 62). The Durbhanga Plenum adopted the position proposed by Pushpa Lal. The following year Rayamajhi was expelled from the party, accused of supporting the Royal coup. Later in 1968 Shrestha started a new party.

In the period of rivalry between the two Communist Party factions in the early 1970s the Nepal Communist Party (Marxist–Leninist) launched an armed assault, killing local feudal lords in eastern Nepal. The Jhapali uprising[28] guerrilla movement in Jhapa District was influenced by the Cultural Revolution in China and the Naxalite[29] movement in neighbouring India (Muni 2004, 1-3). In 1974, Mohan Bikram Singh and Nirmal Lama convened the Fourth Convention and gave birth to another new party, named the CPN Fourth Convention, which proposed the armed struggle. Further splits in the CPN led to the formation of two additional groups, Masal and Mashal, with the former being led by Puphpa Kamal Dahal alley Prachanda and the latter being led by Dr. Baburam Bhattarai.

[28] The "Jhapali uprising", which was initiated in 1971 in the eastern region of the Jhapa district of Nepal, refers to a armed guerrilla movement against the Nepalese government launched by a revolutionary group influenced by the Maoism ideology and the Naxalites movement in West Bengal of India.

[29] *Naxalite or Naxalism* is an informal name given to radical, often violent, revolutionary communist groups that were born out of the Sino-Soviet split in the Indian communist movement that started their armed struggle in 1967 from Naxalbari, a small village in West Bengal, India.

In the 1989-1990 revolution, the CPN (Fourth Convention) decided to take part in the struggle and formed an alliance with the United Left Front (ULF). The ULF did not join the coalition formed by the Nepali Congress Party in the 1989-1990 revolution, but instead operated independently. The people's movement of the 1990s ended with an agreement introducing multi-party democracy and constitutional monarchy. However the United National People's Movement (UNPM), which was agitating against the Panchayat regime independently, did not accept the agreement between the King, the Nepali Congres (NC) Party and the United Left Front (ULF), led by Mohan Bikram Singh of the CPN. Their main demand was the abolition of the monarchy and declaration of a republic (Baral 2006, 260). When the demands of the radical faction of the communist party (UNPM) did not materialize, five factions of the CPN merged to form the CPN (Unity Centre) party, and after some contention decided to contest the 1991 general election to expose the inadequacy of the parliamentary system through its political front, the United People's Front of Nepal, and move towards its goal of a People's Democracy (UPFN) (Muni 2004, 4-5).

In the 1991 election the Nepali Congress Party won an absolute majority and formed government, while the CPN's United People's Front Nepal (UPFN) ended up as the third largest party, with nine seats in the parliament (4.83% of the votes cast). In 1994, the Nepal Community Party (Unity Centre)/UPNF, still confronted with severe ideological differences among its leaders, formally split into two factions. The communist faction, led by Pushpa Kamal Dahal alley Prachanda, could not secure an election symbol (to contest in the election) from the election commission for the mid-term election of 1994, and thus boycotted the election and went underground. This group founded the Communist Party of Nepal-Maoist (CPN-M) the following year and launched the people's war, as it believed that the people's revolution of 1990 was incomplete and that overall socio-political reform of the country was impossible within the existing political system (Bray, Lunde, and Murshed 2003, 108; Karki and Bhattarai 2003, 35; Muni 2004, 1).

3. 3.1. The Emergence of Armed Conflict in Nepal (1996 – 2006)

The emergence of armed conflict in Nepal can be attributed to the undemocratic character of the state and suppression of the legitimate demands of the Nepali people. In the 1991 general election the United People's Front (UPF) was the third largest party represented in the House of Representatives. However, they could not participate in the 1994 mid-term election as they were denied recognition as a political party by the electoral commission; and following this, they launched anti government activities. Instead of initiating dialogue and negotiation with the UPF, on September 1995 the government launched a suppressive operation, "Operation Romeo," against UPF supporters, involving Nepal Police in Rolpa district, where hundreds of civilians were killed by the security forces (Kumar 2003, 170-171). Against this background, on 4 February 1996 the Communist Party of Nepal – Maoist (CPN-M) presented "Forty Demands" to the coalition government led by Sher Bahadur Deuba, giving 15 days for their demands to be met (Upreti 2006, 23; Kievelitz and Polzer 2002, 25; Baral 2006, 261). Most of the demands put forward by the Maoists were directed towards a radical socio-political transformation of Nepalese society and the overthrow of the old feudal social hierarchy, calling for greater equality of economic access between the capital (Kathmandu) and other regions, and among ethnic groups, castes and between genders. Three of the Forty Demands presented by CPN-M were considered particularly sensitive by the government: i.e. the abolition of special rights and privileges of the King and his family, the establishment of an interim government for holding Constituent Assembly elections to form a new constitution, and declaration of Nepal as a secular state instead of a Hindu state (Muni 2004, 19; Baral 2006, 261). When the government failed to address the Maoist demands, the CPN-M launched an armed struggle on 13th February 1996. The Maoist ideology behind the armed struggle, promulgated by the party's ideologue Dr. Baburam Bhattarai, was to establish a new people's government for the total elimination of social and economic discrimination and hierarchy (Upreti 2006). They claimed that all attempts to carry out reforms within the "old" crisis-ridden semi-feudal and semi-colonial system had failed. Their main policies included revolutionary

reform in agriculture and land reform, national industrialization, integrated and balanced development and reduction of poverty (Bhattarai 1998).

The Maoist People's War began in the Mid-Western Hill region of Nepal, where there was strong sentiment from socio-economically disadvantaged groups towards communist ideology for decades (Seddon 2005, 3; USAID 2006). The 1990s were the most significant in Nepalese political history with the restoration of multi-party democracy and the promulgation of a liberal constitution. The 1990 Constitution guaranteed political freedom, civic liberties, and human rights as fundamental pillars of the political system; so there were high hopes among the Nepali people for socioeconomic transformation. However, between 1990 and 1998 there was little progress on the human development front (Nepal South Asia Centre 1998). The 1996 national Human Development Index (HDI) was only 0.378, with the per capita income at US$ 210. However, the HDI in Kathmandu (capital city) is more than four times that of Mugu district which lies in the Mid-western region (Nepal South Asia Centre 1998, ii). Similarly, there was a wide difference in the HDI between geographical regions and across gender and caste/ethnic groups. The level of HDI among the *Newars* was found to be twice as high as that of untouchables (lower caste). The literacy rate in 1996 was 40%; however, women, disadvantaged caste and ethnic groups were far below the national average at only 10% for some castes (Nepal South Asia Centre 1998). There was a wide difference between the urban centres and rural Nepal for every social indicator in the areas of health, education, and development infrastructure. It is argued that the main reason for the slow progress in socio-economic development after the restoration of democracy was the resistance from feudal, commercial, bureaucratic, caste and gender related interests which generally collided with the quest for equitable development (Nepal South Asia Centre 1998, ii).

From the restoration of democracy in 1990 until 2001, human development indicators show that the incidence of poverty remained high. Forty percent of the Nepali population (about nine million people) continued to live below the poverty line. The underdevelopment and low socio-economic growth are mainly attributed to weak governance, geographic disparity, disparities in the ownership

of productive resources – both capital and non-capital, and exclusion of people from decision making processes (UNDP 2002, iii-1). According to a World Bank estimate, in 1996, 41.8 % of the Nepalese population lived below the poverty line. The urban poverty in 1995-96 was only 21.55% against 43.27% in rural areas (CBS 2005, 13). In 1998, the average per capita income of the Nepalese was only US$ 210. It is argued that the distribution of income among Nepalese has been directly influenced by the discrepancy in distribution of assets (particularly land), income-earning oppurtunities and access to decision making processes. The top 10 % of the population receives 50 percent of the national income, while the bottom 20 % receive only 3.7% of national income (Nepal South Asia Centre 1998, ii). Similarly there is massive difference in income along gender lines, with women lacking access to property rights, which had a direct bearing on their acess to education, health, nutrition and economic security (Nepal South Asia Centre 1998, ii). Low caste, ethnic groups, the poor and women faced severe barriers in socio-economic development. There was high child and maternal mortality, only 40% of the 6+ age group was literate, and safe drinking water was available to only small portion of the population (Nepal South Asia Centre 1998, iii)

Persistent poverty, social exclusion, and the widening gap between the capital city and other regions provided fertile ground for popular revolt (Parwez 2006, 2). Certainly elite-focused politics and Kathmandu-centered development, as well as deep-rooted poverty, discrimination, bad-governance and corruption, provided the conditions for the onset of civil war in Nepal (DFID 2004, 4). There is some debate about whether revolt would have erupted if the Maoist Party had been permitted to participate in the 1994 election, and if the elected government had given attention in fulfilling the demands put forward by the Maoists. But the Government did not take seriously the issues raised by the UPNF. Instead, the state machinery was mobilized to crush the Maoist movement. With strong organizational capacity and ideological appeal, the CPN-Maoists were able to enlist the sympathy of local people against the state's operations, which were considered brutal and in which hundreds of non-combatants were killed between 1991-1994 (Muni 2004, 8-9; Karki and Bhattarai 2003, 5).

The Mid-Western development region, especially the Rolpa district (the Maoist headquarters) was largely dominated by ethnic Magar (Mongolian) peoples, but the socio-political sphere was controlled by *Brahmins* and *Chhetri*, the so called upper castes. In the 1950s and 1960s, a prominent and influential leader of the communist movement in Nepal, Mohan Bikram Singh, had taken shelter in this district and was involved in spreading the communist ideology that made this district a communist stronghold. It is important to note that in the 1991 general election, out of nine parliamentary seats won by UPNF, two were won from the district of Rolpa and one from neighboring Rukum (Upreti 2006, 6). The ruling regime always considered the people from this region as rebels and the state machinery was focused on monitoring their activities rather than helping to raise their socio-economic condition. Between 1980-1995 a large scale Integrated Rural Development Project (IRDP), amounting to 50 million US$, was implemented by United States Aid for International Development (USAID) in this development region. However the IRDP was completely unsuccessful, since the benefits went to local elites and politicians. Rising frustration among the poor and marginalised people doubtless helped the Maoists to motivate the fight against the government in this region. By 2002 the Maoist presence was felt all over the country. They attacked government and Village Development Committee (VDC) offices throughout the countryside to pave the way for forming their own local level administration. Political instability and a sense of insecurity among Nepalese people further deepened after the royal massacre of June 2001, when King Birendra and his entire family were killed. The late king had nationalistic views, opposed foreign interference in Nepal's internal issues and had some sense of sympathy with the Maoists, making him reluctant to mobilize the army against their insurgency (Bhattarai 2005, 30; Bray, Lunde, and Murshed 2003, 9).

During the insurgency, a high degree of brutality and human rights abuses were carried out by both militants and the security forces. Civilians were used as "human shields" and people were caught in the cross-fire between the two forces (Bray, Lunde, and Murshed 2003, 110). In July 2001, when the conflict was particularly intense, the Nepali Congress Party government led by Prime

Minister Sher Bahadur Deuba called a ceasefire with the Maoists. As the ceasefire provided greater political freedom, the Maoists used this opportunity to extend their organization and strengthen their political philosophy through rallies and mass meetings. Three rounds of peace talks went on for four months, but ended without any agreement mainly due to disagreement over the three key Maoist demands for abolition of the monarchy, formation of an interim government, and election of a Constituent Assembly to draft a new constitution (Muni 2004, 19; Bray, Lunde, and Murshed 2003). As the government was not prepared to meet these demands, talks were broken off ending the ceasefire.

On 23 November 2001, the Maoists launched a large-scale assault on military installations at Ghorahi, Dang District and several police posts throughout the country, killing hundreds of security forces. After this incident, on 26th November 2001, the government immediately declared a state of emergency, declared the Maoists a terrorist organization and deployed the Royal Nepal Army (RNA) against them (Karki and Bhattarai 2003, 22; Kievelitz and Polzer 2002, 9). After the declaration of a state of emergency and deployment of RNA, civil liberties, press freedom, and constitutional rights were curtailed, and the incidence of confrontation between insurgents and RNA greatly increased. By October 2001, the Maoists announced their "People's Government," covering 25 districts under the leadership of Dr. Baburam Bhattarai, second in command of the Maoist party. The emergency was extended for another 3 months, but the government could not get approval from parliament for a second extension. Then the Prime Minister dissolved parliament in May 2002, committing to hold a fresh election in November. The state of emergency ended in May; however, after a gap of only three days another emergency was declared and the Terrorist and Destructive Activities (Control and Punishment) Ordinance was enacted, which gave security forces power to arrest and detain suspects without trial for up to 180 days (Karki and Bhattarai 2003, 22). In the face of growing international concern about terrorism, the government was able to garner military assistance for the Royal Nepal Army from the United States, UK and India (Upreti 2006). Although the government fully authorized the army to bring down the Maoist insurgency, the difficult geographical terrain of the country and lack of sufficient equipment and resources hampered their task. In the meantime, Maoists were

displaying superior tactical skills as well as motivating rural people to take part in their movement.

3. 3.2. Dynamics of Armed Conflict in Nepal

It is argued that the launching of military operations and introduction of the Terrorist and Destructive Activities (Control and Punishment) Ordnance further escalated the conflict rather than addressing its root causes (International Crisis Group 2006, 23). Due to state suppression, many young people joined the Maoist movement. At the same time, the Maoists established their own local government to counter the state machinery in their stronghold areas and implemented local reform and development works. In these areas the vast landholdings of absentee landlords were confiscated and distributed among the peasantry, and those indebted to money lenders were released from their debts (Cottle and Keys 2007, 171). The Maoists adopted the concept of "protracted war" following Mao's military strategy, combining strategic defence, strategic stalemate, and strategic offence (Thapa and Sijapati 2004). Muni (2004, 18) states that "Maoists have systematically structured, ideologically cultivated and consistently mobilized the diversified social support". It is evident that the Maoists were very successful in enlarging their support base by exploiting the socio-economic and political grievances of the landless peasants, workers, poor farmers and socio-economically disadvantaged ethnic groups in the remote western hills districts of Nepal. This support expanded across the country as people from poor as well as middle classes became involved. These people wanted greater participation in socio-economic and political decision making as well as better livelihoods for themselves and for their children. Maoists capitalized on public sentiment by adapting their strategies to the local situation and mobilizing these diversified groups of people towards establishing a People's Republic and what they called "new democracy," as they believed that the multi-party system failed to meet the needs and aspirations of Nepalese at large (Muni 2004, 14-18). The Maoists' main goal in overthrowing the old regime's structure and production relations was to establish planned, balanced and self-reliant development through progressive land reforms, nationally

oriented industrialization, and regional balance within the country (Bhattarai 1998).

During the initial stage of the insurgency, the major political parties were divided in their response to the Maoists and were unable to take a common position on solving the conflict. The success of the Maoists lay as much in the government's failure to address the socio-economic and political agenda put forward by the Maoists as in its inept counter-insurgency measures (Muni 2004, 27-41; Gordon 2005). In 2001, the government launched the "Integrated Security and Development Program (ISDP)", involving the RNA in development activities along with other government line ministries, in an effort to win the hearts and minds of the rural population through development assistance in the villages. The ISDP was launched mainly in the Maoist stronghold districts with the objective of delivering security, providing justice and effective service delivery, accelerating social and economic infrastructure, addressing poverty issues and creating employment through mobilizing people's participation in the local development process and to revive the people's faith in government. However, the ISDP was heavily criticized for being security dominated and failed to win the confidence of international donor agencies. It was largely unsuccessful in delivering services and defeating the Maoist insurgency (Kievelitz and Polzer 2002, 28).

3. 3.3. King Gyanendra's Royal Takeover

After November 2001 the armed struggle reached an intense stage as the army was deployed to fight the Maoists. On the grounds that the security situation made it impossible to hold elections, on October 3rd 2001, Prime Minister Deuba with the advice of the political parties asked the king to postpone the election through the constitutional power given to him. Instead of postponing the election, King Gyanendra sacked the Prime Minister on 4th October 2002 and took over power, appointing a puppet government with Lokendra Bahadur Chanda as Prime Minister from the Rastriya Prajatantra Party, a party loyal to the king. The government was tasked with holding fair elections, controlling corruption and service delivery (Muni 2004, 60; Karki and Bhattarai 2003, 24).

Prime Minister Chanda declared a ceasefire with the Maoists on 29th January 2003 and held two rounds of talks where the Maoists tabled Thirty demands similar to the previous Forty Demands. During these talks other parliamentary democratic parties were not involved. Finally, without any success, Prime Minister Chand resigned on 30th May 2003. On 4th June 2003, King Gyanendra, against the opinion of parliamentary parties, appointed Surya Bahadur Thapa, Chairman of the Rastriya Prajatantra Party, as a Prime Minister. This government held informal talks with the Maoists, culminating in a crucial round on 17th – 19th of August 2003 in Dang district which ended without agreement as the Maoists persisted in their demands, whereas the government's bottom-line was constitutional monarchy and multiparty democracy (Karki and Bhattarai 2003, 28-29). The ceasefire was ended by the Maoists on August 27, 2003 when they launched heavy attacks on government installations. The government mandated the Royal Nepal Army to fight against the Maoist under a "Unified Command" and also set up local defence groups mainly composed of anti-Maoist groups (Karki and Bhattarai 2003, 31). Like the declaration of emergency in 2001, that response severely escalated the conflict.

The "regressive move" of the king of 4th of October 2002 severely threatened hopes of institutionalizing democracy and the prospect of solving the Maoist insurgency through political means (Sapkota 2004). King Gyanendra's second "royal takeover" on February 1, 2005 had further undermined the democratic process by assuming power as the head of the government and chairing the Cabinet himself. These moves further sidelined the political parties and possibilities for negotiations with the Maoists. India, the United States, the European Union and the United Kingdom immediately suspended their military assistance (Vaughn 2006, 2; Crossette 2006, 75). The constitution of Nepal was suspended and the government almost paralysed after the Royal coup. The parliamentary parties repeatedly demanded the resumption of Parliament, restoration of the constitution and dialogue with the Maoists as it was impossible to hold elections under the deteriorating security situation in the country.

3. 3.4. The People's Movement and Peace Process

After the royal takeover, the difference between parliamentary parties and the king widened and the king himself emerged as the focus of the conflict. This incident further encouraged the Maoists in their movement and also helped to develop a working relationship between them and major political parties in opposition against the king's autocratic regime (Adams et al. 1997; Adams 2005). Vaughn (2006, 2) argues that King Gyanendra'a inability to control the Maoist insurgency and repression of democratic forces undermined his legitimacy.

After the royal takeover, the major political parties united against the king's autocratic actions in a Seven-Party Alliance (SPA) and organized a nationwide movement against the royal regime. There was a popular uprising in different parts of the country against the king's direct rule. The movement had popular support from all sections of society, including lawyers, journalists, civil society leaders, media personnel, human rights activists, bureaucrats and families of security forces who totally paralysed the state machinery. Political analysts and foreign diplomats called for reconciliation between the political parties and the king to fight against the Maoists. However, the gap between the seven-party alliance (SPA) and the king had widened. As the king was committed to his autocratic regime and ignored the political concerns raised by the major political parties, a historic 12-point agreement was signed between the Maoists and SPA in November 2005 to fight against the king's autocracy. The SPA organized a pro-democratic movement in April 2006, which was strongly supported by Maoist political activists. The Government issued a curfew and ordered the police to "shoot on sight" anyone who disobeyed the order. However, hundreds of thousands of people actively participated in the strike (Cottle and Keys 2007, 172). During the general strike, the Maoist Chairman Prachanda announced a six-point program in support of the resistance movement involving: defiance of government restrictions, destruction of royal statues, removing signboards bearing the name of "His Majesty's Government", supporting local declarations of a republic, urging people not to pay tax, and blockading highways to disrupt supplies to the capital city (International Crisis Group, 2006).

On April 21, 2006 on national television, the king offered to return executive power to the people and invited the SPA to nominate a candidate for prime minister. The royal proclamation was immediately praised and endorsed by the international community, including UN Secretary General Kofi Annan, without assessing public opinion or the position of the SPA. The day following the royal proclamation an estimated 200-300 thousand people came out on the streets of Kathmandu defying the curfew ordered by the royal government. As there was nothing fundamental and progressive in the royal proclamation, the Maoist and SPA immediately rejected the proposal. As a result, the king was compelled to make a second proclamation on April 24, 2006 recognising the sovereignty of the people, and agreeing to resolve the conflict with the SPA and Maoists. On April 26, 2006 he reinstated the parliament, which met on 28 April 2006 (Singh 2009, 308; International Crisis Group 2006, 13-14; Hutt 2007, 19). On 4 May 2006, the reinstated parliament approved the SPA roadmap, which was based on a twelve-point understanding with the Maoists. On 18 May 2006, parliament declared itself as "Sovereign and "Supreme" and "His Majesty's Government" became the "Government of Nepal". The parliament brought the Nepalese Army under civilian control, declared Nepal a secular state, and dissolved the *Rajparished* (Royal Privy Council). More importantly, authority to make laws, to amend or nullify the arrangements regarding the succession to the throne came under the parliament (Hutt 2007, 19; Singh 2009, 308). Provisions were announced to tax the King's private property, and the King would be subject to questioning by parliament or the court.

In June 2006, the Seven Party Alliance (SPA) and the Maoists formally agreed to implement the earlier 12-point agreement, to invite the United Nations to monitor the National and Maoist Armies and to hold an election of the Constituent Assembly (Hutt 2007, 19). The agreement did not mention the composition of the Constituent Assembly and the fate of monarchy, although the Maoists reportedly stated that they would abide by the decision of Constituent Assembly on the future of the monarchy (Cottle and Keys 2007, 174). A landmark Comprehensive Peace Agreement was signed on 22 November, 2006 between the SPA and the CPN (M) declaring the end of the decade long armed

conflict, and a Tripartite Agreement on Monitoring the Arms and Armies of the National Army and the Maoist Army was also reached between the government, the Maoists and the UN. By early 2007 the Maoists joined an interim government (Pyakurel 2007, 134)[30]. On 15 January 2007, the Parliament repealed the 1990 Constitution and issued an Interim Constitution which provided no powers for the king (Singh 2009, 308).

3.4. The Causes of Armed Conflict

Since the end of the cold war, intra-state armed conflict has been the dominant feature of civil conflict around the world, posing serious problems for environmental and human security (Ballentine and Sherman 2003, 1). After the end of the cold war, non-traditional threats to security have been given increasing attention (Lietzmann and Vest 1999, 35; Collier et al. 2003). Jessica Tuchman Mathews argues that the definition of national security needs to be broadened to include environmental and demographic issues (Mathews 1989, 61).

Similarly, Myers argues that:

> Security concerns can no longer be confined to traditional ideas of soldiers and tanks, bombs and missiles. Increasingly they include the environmental resources that underpin our material welfare. These resources include soil, water, forests, and climate, all prime components of a nation's environmental foundations. If these foundations are depleted, a nation's economy will eventually decline, its social fabric will deteriorate, and its political structure will become destabilized. The outcome is all too likely to be conflict, whether in the form of disorder and insurrection within a nation or tensions and hostilities with other nations (Myers 1993, 20).

Since the early 1990s scholarly and policy attention has explored the linkage between environmental change, conflict over natural resources and its impact on human insecurity (Brown 2005, 1; Ballentine and Sherman 2003, 1). Various schools of thought have emerged in the study of civil conflict and environmental factors. The environmental scarcity school that adopts a neo-Malthusian model, which relates population growth, resource scarcity and conflict, concludes that

[30] See Annex 2 for peace agreement between government and Maoist

when resource scarcity combines with population growth and unequal distribution of natural resources, it often leads societies to violent conflict (Homer-Doxon 1999a, 85; Ullman 1983, 139). Homer-Doxon (1999) argues that when powerful elites capture productive natural resources, this leads to the displacement of poorer groups (ecological marginalization), which in turn leads to environmental degradation and civil unrest (2007, 77)Three major areas of resource scarcity have been identified by (Nyong 2007, 77) i.e. – economic scarcity, related to the quantity of resources; ecological scarcity, concerning quality of resources; and finally, the structural scarcity that takes account of the unequal distribution of resources within the society. The declining state of natural resources undermines the state's ability to fulfil the needs of its people, which undermines the government's legitimacy and ultimately leads to a violent struggle. Environmental degradation increases poverty and social inequalities, which in turn increase the potential for civil conflict (Ohlsson 2000; Myers 1993, 21). While there is considerable research on the relationship between resource scarcity and eruption of violent conflict, assumptions of a simple and direct connection between environmental degradation and scarcity of renewable natural resources have been challenged (Gleditsch 1998).

Since the 1990s, the focus of conflict analysis has shifted from resource scarcity to the economic dimensions of conflict, especially towards understanding the role of resource abundance on the escalation and sustenance of civil wars (Ballentine and Sherman 2003). The second focus of debate (Collier and Hoeffler 2004, 564) is polarized around two models – basically "loot-seeking" and "justice-seeking" behaviours – arguing the case for economic versus socio-political (greed versus grievance) drivers of civil war (Ballentine and Nitzschke 2003, 2). It is argued that most of the productive resources of a country are captured by powerful elites, leaving the majority of the least powerful struggling to meet their livelihood needs. The source of social and economic disturbance, insecurity and conflict in society, according to this line of argument, is mainly one of bad governance and weak institutions (Nyong 2007, 77-78). High resource dependency makes a government weak, induces poor economic performance, bad governance, and provides people living in resource rich states

with an incentive to form rent seeking groups, as well as offering potential resources to finance rebel movements.

An econometric study conducted by (Do and Iyer 2007) concludes that the primary cause of armed conflict in Nepal was the high level of poverty and low economic development. Zartman (2005, 257), however, argues that poverty is rarely the sole cause of conflict but that both poverty and conflict are rather the effect of a complex web of socio-political structures in society. People who have poor quality of life, low income levels and limited access to political decision-making processes are more likely to support rebel movements when they are dissatisfied with the current situation if non-violent means of bringing about change are not available (Cramer 2003; Walter 2004, 385). Poverty and conflict are understood as interconnecting and reinforcing each other, although the relationship is neither direct nor immediate. It has been observed that many poor countries are in peaceful and stable condition, while countries with intermediate income levels are nonetheless subject to conflict (Duffield 2001, 121). A study conducted by the OECD covering the 34 poorest countries in the world concludes that two thirds of these countries are engaged in conflict or have just emerged from conflict. Although poverty and underdevelopment do not automatically trigger conflict, they do increase the probability of outbreak (Duffield 2001, 121). While poverty contributes to conditions that produce conflict, conflict itself paradoxically has the direct effect of deepening pre-existing poverty, destroying infrastructure as well as social capital, and making it difficult for the affected countries to recover in the post conflict situation. It is important to understand how these factors relate to each other in the emergence and sustaining of armed conflict in order to devise appropriate policies for resolving conflict situations (Zartman 2005, 256-257).

3. 4.1. Causes of Armed Conflict in Nepal (1996 – 2006)

Studies conducted on the causes of civil war in Nepal suggest that the primary factors for the emergence of conflict were: economic factors arising mainly from centuries-old accumulated socio-economic grievances like persistent poverty, social inequalities based on the ethnic/caste system, and landlessness (Parwez

2006, 5; Korten 1987; Deraniyagala 2005, 61; Bray, Lunde, and Murshed 2003, 107; Murshed and Gates 2005, 132); and inequitable land distribution (Hatlebakk 2009, 13); underdevelopment, social and political exclusion, elite caste domination, joblessness, corruption and bad governance (Parwez 2006, 5; DFID 2004, 5). Unquestionably environmental factors have been significant and play an important role in engendering insecurity and violent conflict (Cramer 2003, 409; Brown 2005, 4; Myers 1993, 22). But some argue that environmental factors (degradation and scarcity of resources) only play an intervening role, as a symptom of other underlying conflicts rather than the cause of civil conflict itself (Gleditsch 2001, 64). The forests occupy a central role in Nepalese people's livelihoods. They supply firewood as a main source of energy for cooking, fodder for supporting animal husbandry, and are crucial for maintaining soil fertility and protecting watersheds (Tachibana et al. 2001, 274). The increasing population of Nepal, which has grown 5-fold from 5.6 million in 1911 to almost 28 million in the 2001 census, has exerted tremendous pressure on the country's natural resources, leading to degradation of forest and land resources. The causes of conflict are evidently a complex combination of environmental, political and economic factors arising from environmental stresses, accumulated socio-economic grievances and the lack of substantive political reform (Bray, Lunde, and Murshed 2003, 107).

3. 5. Socio-economic and Environmental Impacts of the Armed Conflict in Nepal (1996-2006)

The Maoist insurgency in Nepal had an effect on every walk of Nepalese life (ADB and ICIMOD 2006, 169-170). Maoist insurgents destroyed hydropower generation plants, telecommunication facilities, conservation infrastructure, government buildings and security installations worth around US$ 400 million (ADB 2004a, 2). A major portion of the government budget was diverted to security expenditure; consequently, development projects were either reduced or halted, severely affecting employment and livelihoods (Thapa and Sijapati 2004). Expenditure on internal security (police) increased from 0.84% in 1997/98 of the GDP to 1.43% in 2002/03 and military expenditure from 0.86% to 1.39% of the GDP during the same period. Similarly, expenditure on social

and economic services in 1997/98 was 3.43% and 5.95 % of the GDP, however, during the conflict period (2001/02) it came down to 2.73% and 4.13 % respectively (Pyakuryal and Sainju 2007, 9). There was a sharp decline in GDP growth during the conflict. A study indicates that before the conflict period (1987/88-1994/95) average annual GDP growth was 4.1 %, while during the following six years of conflict (1995/96-2001/02) the GDP dropped to 3.8% (Sharma 2006, 1242), and further declined to 2.8% during the 2002/03-2006/07 periods (UNDP 2009, 22). During ten years of armed conflict in Nepal (1996-2006) over 13,284 people were killed, among them more than 475 were children (Gautam 2007, 3; EPSP 2010). Besides that, thousands were injured and displaced and thousands more were widowed and orphaned; and human rights abuses by both the security forces and Maoist insurgents were rampant (Murshed and Gates 2005, 121). A large number of people (mostly the young) migrated to urban centres, or to neighbouring India and beyond in search of employment and security. Those that were left behind in the villages in areas affected by the insurgency were mostly the old, the sick and the infirm, along with women and children (Adhikary 2004; UNICEF 2006, 132). In some districts 80% of the villagers had left their home due to fear and lack of security which resulted in breakdown of village social structure (UNICEF 2006, 132). Furthermore, the social and economic costs of the decade long conflict were immense. During this period around 200,000 people were internally displaced (IDMC 2008, 5). People were trapped between the two forces. They were subject to demands and atrocities from both sides (NGO Federation 2003, 84). The fate of many hundreds of people who were arrested either by the security forces or the Maoists is not known. Those who were displaced from their homes or places of habitual residence, particularly women and children, were vulnerable to violence, exploitation and discrimination (Tamang 2009, 3).

The supply of many essential goods including food, medicines and construction materials were prevented in certain districts, and travel and transportation were restricted (Seddon and Hussein 2002, 27-29; NGO Federation 2003, 109). In addition, social relationships and harmony among people were disrupted due to suspicion and fear, and families broke up due to forced recruitment by Maoists (USAID 2006). There was a breakdown of safety nets and traditional social

security systems during the conflict period and victims of the conflict were often neglected for fear of reprisal by opposing forces (Pyakuryal and Sainju 2007, 21; NGO Federation 2003, 82).

There was frequent closure of schools as students had to attend political rallies organized by the Maoists (UNICEF 2006, 132). Hundreds of schools were turned into military barracks and abduction of school teachers and students was a common occurrence during the insurgency. It is reported that in the period 1996 – 2004, 136 school teachers lost their lives and about 200 left their villages in search of security (ACHR 2005, 7).

Women and children were particularly vulnerable to the disruption of transportation and health facilities. UNICEF reports that between 2000 and 2004, the child mortality rate under five was 76 (the infant mortality rate 59) per thousand. The primary school enrolment rate for male and female children was 75 and 66 respectively (UNICEF 2006, 130). However, the exact impact of the armed conflict on health and sanitation, child and maternal mortality, the incidence of epidemic diseases and food shortage is not known due to restricted access to those areas and lack of any comprehensive study. Children were abducted and recruited into the Maoist Army. It is believed that around 18% of the Maoist forces may have consisted of boys and girls less than eighteen years of age. Many children were also abducted or arbitrarily detained by government security forces who suspected them of being Maoist supporters (Watchlist on Children and Armed Conflict 2005, 5). Children were forced to work as child soldiers, messengers, informants, cooks, sentries, and as carriers of ammunition (UNICEF 2006, 132). Those children who were displaced from their villages were deprived of basic health, education, food and proper care. Children were forced to work under severe conditions and were vulnerable to sexual abuse and exploitation.

3. 5.1. Environmental Impacts of Armed Conflict

Beside social and economic impacts, studies show that civil conflict places stress on the environment leading to degradation of natural resources as well as causing negative impacts on environmental management institutions (UNEP 2006, 392). In addition to destruction of life and property, forests, waterways, biodiversity, cropland and other natural resources are often adversely affected. Generally during a period of armed conflict governance structures are weakened and are unable to assure access to and protect resources (Shambaugh, Oglethorpe, and Ham 2001, 13-14). The impact of conflict on resource governance and the local environment depends upon the type, intensity and duration of conflict (Collinson 2003, 10-11). Civil society, NGOs and community voices are crucial in environmental policy-making and conservation efforts. However, during a period of armed conflict all these forums are in a disorganized state. Lack of information and the ability to communicate and assemble in turn restricts the basis for good environmental decision-making (WRI 2003, 27). During armed conflict, short-term human needs like shelter, food and security receive priority; thus, environmental conservation and sustainable resource management initiatives receive low priority and may lead to over-exploitation. The breakdown of law and order during armed conflict creates a favourable environment for poachers of protected endangered flora and fauna (Baral and Heinen 2006, 8). During the armed conflict in the Central African Republic between 1996 and 1997, elephant populations were reduced by 90% due to illegal hunting and poaching (Blom and Yamindou 2001, 14). The civil war in Cambodia resulted in the loss of 29% of the country's primary forest, which was used by both the Khmer Rouge and the government for funding military expenses (Renner 2002; Le Billion 2000; FAO 2006, 197). During the civil war in Rwanda between 1990 and 1994, there was massive deforestation in Gishwati and Mukura forest and loss of 70% of the Akagera National Park (Plumptre, Masozera, and Vedder 2001, 27). In many instances such as in Sierra Leone, Central African Republic and Ethiopia, donor support to conservation programs was curtailed due to the atmosphere of insecurity and violence (Squire 2001, 24). A similar study conducted on the impact of conflict on the environment in sub-Saharan Africa found most of the damage to the environment to be from non-

military personnel taking advantage of anarchy and lawlessness during the period of violent conflict. Armed conflict equally affects the performance and ability of non-governmental organizations (NGOs), civil society, media and resource users to access information, meet and discuss resource management issues (World Resource Institute (WRI) 2003, 27; REC 1997, 35).

Some positive outcomes have been observed, where inaccessibility, personal risk or displacement of local populations led to improvement in wildlife habitat and forest condition through reduced exploitation and natural regeneration (UNEP 2006, 395; Glew and Hudsona 2007, 141-147; Hatton, Couto, and Oglethorpe 2001, 51). However, political instability and social disorder as a consequence of armed conflict disrupts conservation efforts, and ecosystems continue to suffer even after the end of war (Vanasselt 2003), due to weakened resource governance institutions, lack of funding, manpower and priority from the government (Orr 2002, 139)[31] . The studies referred to above indicate that those countries that experienced armed conflict not only witnessed heavy loss of life and property, disruption of socio-economic infrastructure, and cultural shocks, but also faced heavy exploitation of natural resources, damage to conservation programs and infrastructure, making people who depend directly on these resources more vulnerable.

3.6. Armed conflict, Community-Based Forest Governance and Rural Livelihoods

Forests in Nepal have always been a source of livelihood resources for the people living in the mountains and villages. In 1978, the government of Nepal introduced a community forestry program that has since expanded throughout the country. In the last three decades the community forestry program in Nepal has emerged as a successful natural resource management initiative, strengthening local level resource governance (USAID 2006; Pokharel et al. 2008, 55). However, the decade of civil conflict since 1996 placed the

[31] In the post-war situation, where government and traditional local authorities are in a disorganized state, illegal loggers and poachers take advantage to exploit timber and wildlife inside and outside of protected areas for quick benefit, as was the case in Mozambique (Hatton, Couto, and Oglethorpe 2001, 43-48).

Community Forestry program under threat. During the conflict period, forests were used as training sites and hideouts by Maoists and were frequently targeted by security forces. Security forces also cleared the forest for the establishment of additional barracks and check posts. During the insurgency, the government provided 35,608 hectares of forest to security forces for the establishment of additional barracks in 37 districts around the country, in many cases without any notice or consultation with Community Forest User Groups (Khanal 2006b, 14). In 1998 such a case was challenged by the local CFUGs in Doti district, who filed a case against the government in the Supreme Court. Finally in 2000, the Supreme Court gave a verdict in favour of the CFUG. The Supreme Court verdict notes that as the community forests have been handed over to the community under Section 25 of the 1993 Forest Act, the security agency has to coordinate with the CFUGs before conducting any firing and training exercises in these forests and must not restrict the rights of forest users regarding the utilization of forest products, conservation and management activities. Nonetheless, impacts were serious. Deforestation, smuggling of protected flora and fauna and exploitation of timber in the *Terai* region are among the impacts reported (Upreti 2006, 271). A study conducted by Roka (2006) in eight different districts of Nepal, including hill and terai districts, concluded that security forces indiscriminately cleared forest near their camps due to the fear of Maoist attack. Furthermore, use of landmines, explosives, and aerial bombings destroyed forest areas (Upreti 2006, 271). Security forces declared restricted zones in district headquarters surrounded by forest which directly impacted upon people's access to forest products. Restrictions on meetings and gatherings adversely affected the scheduled meetings of CFUGs, as well as implementation of management plans, and CFUG members were threatened or physically tortured by security forces accusing them of being supporters or sympathizers of the Maoists.

In some cases Maoists also prohibited villagers from entering the forest as they feared that security personnel might use the forest under cover to spy on their operations. Thus, people were suffering from both sides (Khanal 2006a). Most affected were firewood and non-timber forest product collectors, grazers, and some indigenous people such as the *Raute* and *Chhepang*, whose livelihoods

directly depend upon forest resources (Khanal 2006a). Those who disobeyed the prohibitions set by the contending parties risked being killed or prosecuted. There are some incidents reported where villagers were shot dead by security forces when they went to collect fodder inside the forest (Limbu 2002, 2002).

Some of the indigenous groups such as the *Bankariya* and *Chhepang* relied on the forest to collect roots, tubers, rhizomes and fruits for their food. When digging holes inside the forest looking for food, security forces assumed that they were making trenches for the Maoists. The *Chhepang* who practice shifting cultivation could not harvest their agricultural products due to the restrictions imposed by security forces. The *Bote Maghi* (indigenous people) who are reliant on fishing for their livelihoods, were prevented from accessing streams and rivers for fishing. The *Raute* indigenous people, who live in the forest and rely totally on it for making wood based utensils, which they sell to buy rice and other goods, were heavily affected by forest access restrictions, and by the loss of monkey meat as a food supplement as a result of aerial bombing or disturbed habitat. The livelihoods and survival of these minority groups were seriously at risk (Khanal 2006a, 12-13).

During the insurgency period, encroachment of forest, illegal felling, illegal poaching, hunting and smuggling of medical plants were widely reported (Upreti 2006, 271). Timber smugglers in the Terai collaborated with security forces in poaching and illegal harvesting of valuable timbers (Roka 2006, 59). Maoists captured different national parks throughout the country and prohibited the government officials and employees from entering. For example, Maoists captured Makalu – Barun National Park in the Eastern hills, Langtang National Park in Rasuwa district, and Dhor Patan Hunting Reserve in the Western hills of Nepal and prohibited entry by parks officials. As the security forces which had been deployed for the conservation of protected areas were mobilized for counter-insurgency operations, there was an increase in the illegal activities inside protected areas (Upreti and Adhikari 2006, 272). It is reported that by 2002, out of 112 guard posts in 11 protected areas in the country, only 34 were functional (Limbu 2002). Thus, the absence of forest guards and check-posts created favourable conditions for illegal poachers and hunters, resulting in

increased poaching of one horned rhinoceros in the Terai, as well as snow leopard, musk deer and wild boar in the mountains and hills (Gajurel 2004). In Chitawan National Park alone, between July 2001 and June 2002, 38 endangered one horned rhinoceros were killed. The rhinoceros population in Chitwan National Park was reduced from 544 in 2000 to 372 in 2005 (Limbu 2002). Similarly, during the insurgency period, forest guards were unable to protect forests from illegal felling because they were unarmed and were also constrained by basic logistics as the government reduced the budget for the conservation sector. Forestry infrastructure was destroyed; and Forest Area offices and staff based in different parts of the district were shifted to district headquarters in fear of abduction and killings. By 2002, it is reported that Maoist insurgents destroyed nine district forest offices, 33 area forest offices and 142 range posts. Insurgents also destroyed the offices of the King Mahendra Trust for Nature Conservation in the villages of *Philim*, *Prok* and *Samagaon* on northwest of Gorkha district (Limbu 2002, 2002).

During the insurgency, community forest user group bank accounts in many districts were closed by order of District and Zonal Administrators because government feared the CFUGs' funds might get into the hand of rebels. The closure of CFUG bank accounts and disruption of marketing of forest products had direct impacts on local community development activities being carried out by the CFUGs (Khanal 2006b, 20). It is reported that during 2004 – 2005, the Chief District Officer (CDO) in 16 districts had issued curfew notices prohibiting entering the community forest, which affected the CFUG members' access to the forest (Khanal 2006b, 17).

Maoist policy was against interventions by international development agencies, with the result that many donor supported forestry projects closed and government support to forestry programs was heavily reduced (Upreti 2006, 271). Due to the worsening law and order situation in the country, in February 2005, the governments of Denmark and Switzerland suspended development aid to Nepal, amounting to $25.56 million and $16-17 million respectively, some of which had been earmarked for development projects and community forestry programs (Sarkar 2005). The Nepal Australia Community Resource

Management and Livelihoods Project (NACRMLP) which was scheduled to run through January 2009 was terminated in June 2006 due to the worsening law and security situation (NACRMLP 2007a).

During the insurgency period, the government was strictly regulating the supply of subsidized food items to some hill districts. The government's main intention was to stop the supply of food reaching the rebels. In Gorkha district, when the people did not have sufficient food to eat due to the government's food restriction policy, local people were compelled to clear the forest and sell it to the nearby Tibet autonomous region of China to buy foods and essentials. By taking advantage of this situation, illegal timber traders and smugglers had also cleared the forest for profit (Limbu 2002, 2002). The Maoists also adopted various strategies to fund the armed struggle by taxing natural resources depending on the local situation – for example, taxation of non-timber forest products (NTFPs) in the mountains, and of valuable timber in the lowland Terai. Maoists also taxed timber contractors and non-timber forest products traders depending upon the local situation and the nature of the NTFPs. Economically valuable timbers like Sisso (*Dalbergia sisoo*) and Khair (*Acacia catechu*) were taxed at the rate of 15% by government as a royalty, while the Maoists demanded the same amount of tax from CFUGs (Khanal 2006b, 25; Roka 2006). When the Maoists established "United Revolutionary People's Councils" in 25 districts (Karki and Bhattarai 2003, 22), they gave authority to these local councils to fix and collect tax according to the local situation (Khanal 2006a). Maoist policy related to forest and other natural resources was articulated through the United Revolutionary People's Council program:

- The Forest and natural resources shall be kept as public property under the ownership of local people's government;
- An integrated, balanced and interrelated policy shall be adopted for the management and distribution of natural resources;
- Local people's government shall prepare and implement a site specific "forest plan" based on the local context and necessity, as outlined in the "Forest Directives" under the "People's Government Operation Directives" within the framework of United Revolutionary People's

Council Directives (unofficial translation based on the Nepali publication by FECOFUN Nepal - (Khanal 2006a, 10).

The Maoists did not specifically set out a detailed community forestry policy in the "Minimum Common Policy and Programme of the United Revolutionary People's Council". As the community forestry programme had become a widely popular feature of Nepali society, at a later stage, the Maoists acknowledged the concept of community forestry and recognized three types of forest management policy, specifically, National Forest, Community Forest and Cooperative Production Forest (Khanal 2006a, 11). This policy was incorporated in the "Operational Directive for People's Government", although they adopted different approaches and modalities within the community forestry program depending on local context (Khanal 2006b, 37-39). In an interview with Dr. Baburam Bhattarai (second in command in the CPN -M) on February 12, 2006, he denied that the Maoists were engaged in taxing natural resources including forest products and NTFPs. He stated that the CPN -M did not have any policy which would disturb the activities of the community forestry programme. He noted that although the CFUGs were independent institutions, this did not necessarily mean that they do not have class characteristics. He argued that the elites were taking greater benefit from the Community Forests than the people from lower socio-economic strata, and that this weakness of the CF program needed to be addressed at local level[32] (FECOFUN 2006, 4-5).

When the intensity of the armed conflict was on the rise, the government adopted a strict policy towards the community forestry program. In 2000, the government formulated new Forest Sector Policies providing that 40% of the income earned from the sale of surplus timber (10% formerly) from CF in Terai[33], Siwalik and *Innner Terai*[34] had to be deposited in a government account. Under the new forest policy, government no longer handed over large blocks of forest in the Terai region to community forest user groups. Rather the forest was managed

[32] This article was published in *Nepal Rastriya Saptahik* and republished in *Samudayik Ban Aawaj* the same month.
[33] The Southern edge of the Siwalik range below 700 meter MSL, also known as the lowest range of the Himalayan foothills is classified as the Terai region.
[34] The low valleys in between Churia hills to the north of the southern plains (Terai) and Mahabharat range are called "Duns" or Inner Terai

through the joint collaboration of local users, local political bodies and government. 75% of the income from collaborative management of the forest under this arrangement went to the government account, and the remaining 25% was shared between users and local bodies (Kanel, Poudyal, and Baral 2005, 72). This new forest policy prepared by the government was totally against the established policy, regulation and practices of the community forestry program. There were two reasons behind formulating this policy. First, as most of the countryside was controlled by the Maoists, the government feared that the income generated from CFUGs might go into the hands of the Maoists. Second, large sums of money from CFUGs could be used to fight against the Maoists. The government's main motive for its new forest policy was to control community forest user group funds through the bureaucracy and also to govern CFUGs activities through political organizations.

Beside the negative impact of armed conflict on community forestry, some positive impacts have also been observed. Study shows that there was increased empowerment and participation of disadvantaged people and women in CFUG activities, reduction in illegal felling, and illegal encroachment (Roka 2006). For example, in the Illam district in the eastern part of Nepal, Maoists had adopted conservation and development programs in community forestry and in many instances they had taken stringent actions against timber smugglers. In other examples, Maoists launched a campaign against encroachers in the National Forest and punished those who had misused CFUG funds. The Maoist insurgency also provided impetus for reform within the CF program, especially the introduction of public auditing, good governance, gender balance and pro-poor initiatives. In some instances, security forces and CFUGs jointly undertook patrols against timber smugglers. In other cases, the Maoist presence also encouraged CFUGs to be more transparent and inclusive in their programs and resource distribution practices (Baral and Heinen 2006, 8-9; USAID 2006, VI). The pressure exerted by the conflict also encouraged CFUGs to be more transparent and responsive to the needs of people.

The conflict forced development agencies to reorient their programmes to be more transparent, inclusive, and responsible. Many donors working in Nepal like

DFID, SDC, GTZ, reviewed their existing policy, trained their staff in conflict management and adopted a "do no harm" approach in their development interventions (LFP 2007, 2). The donor agencies reformulated their working procedures to promote the participation of poor and disadvantaged people in decision-making processes of the community forestry program. Although there was a general lack of support from government to the community forestry program during the insurgency period, the results of this research and other studies indicate that CFUGs were the only grass roots institutions that were functioning despite the political instability and deteriorating law and order situation (USAID 2006, IX).

3.7. Conclusion

From the time Nepal was unified and emerged as a nation-state; the political system was controlled by elite families under feudal conditions. During the 104 years of the autocratic Rana regime, there was no political space for citizen participation in the political process. People were without access to education, health facilities, and other basic needs. With the development of egalitarian political movements in the Asian region and the emergence of political parties, it became possible to launch a struggle for political reform. Following the 1950 revolution, in which the new political parties, the general public and the king himself played active roles, a compromise was reached that forced the century old Rana regime to accept a democratic political system. The political system in the post 1950 period could not function well, however, as there was constant struggle for power between the King, the Rana family, and the political parties. There was a huge challenge for the new government to restructure political institutions and reform the feudal caste-bound society. The struggle of the pro-democratic political parties to alter the traditional system met heavy resistance from feudal elements within the new political system. The promise of the 1950 revolution was aborted in any case, when King Mahendra banned political parties and took control of the administration himself, imposing the partyless Panchayat system, and becoming directly involved in national politics and the country's government. His successor, King Birendra, followed the same political arrangements introduced by his father. Finally, the 1990 people's movement

overthrew the *Panchayat* system that had been in place for 30 years, restoring multiparty democracy. However, after the formation of first democratically elected government in 1991, instead of working towards socio-economic transformation of Nepali society, there was constant power struggle within and between parliamentary political parties. Good governance, economic development, and social transformation toward which the people aspired did not materialize.

In 1996, the Nepal Communist Party (Maoist) launched a people's war against the government, demanding the abolition of special rights and privileges of the monarchy, Constituent Assembly elections, and establishment of a secular state. The civil war continued for a decade and finally, a landmark peace deal was signed between the political parties and Maoists, who joined an interim government in January 2007.

Research on Nepal's conflict points to a combination of bad governance and underlying socio- economic grievances –persistent poverty, unequal land distribution, social inequalities based on caste, ethnic, gender, and geographic disparities (Deraniyagala 2005, 61; Parwez 2006, 5; Murshed and Gates 2005, 132; Hatlebakk 2009, 13; Bray, Lunde, and Murshed 2003, 107) – that contributed to support for the Maoist insurgency in Nepal (Bray, Lunde, and Murshed 2003, 116). In the case of Nepal, socio-economic grievances were used by Maoists to enlist large segments of the population to their radical social reform agenda for the society. Promises of redistribution of land to the landless and freeing bonded labour (*kamaiya*) appealed to the poor in the countryside (Hutt 2007, 15). Their program also appealed to youth who constituted the majority of the unemployed in the population and saw no prospect for the future. As the Maoists implemented social reforms in their stronghold areas more people were attracted to their movement. In a short span of time thousands of people joined the movement as militants or sympathizers.

Environmental factors have also been significant in engendering insecurity and political conflict (Cramer 2003, 409; Brown 2005, 4; Myers 1993, 22). Environmental factors are not surprisingly linked to socio-economic and political

issues, since declining ecological services and competition over resources, compounded by inequitable access to resources, can be significant in triggering conflict (Elliott 2004, 207). Furthermore, violent conflict is often both cause and consequence of environmental degradation (Græger 1996, 110).

The overwhelming majority of people in Nepal still live in rural areas and areheavily dependent upon forest resources to meet their daily needs for fuel wood, fodder, medicine, building materials, as well as cultural and spiritual needs. Since 1978, the government has implemented a series of community forestry programs and handed over large tracts of government-controlled forest to local communities, a policy which has been considered a progressive step in strengthening local level resource governance. The introduction of community forestry and formation of Community Forest User Groups (CFUGs) in the villages created a social and institutional platform at local level which has been considered vital in empowering collective decision making, increasing awareness and bargaining power at local level (Dev et al. 2003, 66). However, the decade long insurgency (1996-2000) threatened community forest governance and sustainable management of these resources. Firstly, as overwhelming parts of the country were under the control of the Maoists, the Nepalese government sent security forces into community forests and in some cases declared restricted zones in these areas that severely affected forest users' access and capacity to fulfil their livelihood needs from the forest. In other cases, insurgency and counter insurgency measures adopted by both contending parties restricted people's access to the community forests. Secondly, due to the deployment of security forces away from national parks protection to fight against insurgency, there was a rise in the illegal timber trade, hunting and smuggling of fauna and flora that undermined conservation efforts and protection of endangered species. Thirdly, due to the lack of security and fear of Maoist capture, many forestry department and national park staff were displaced from the villages, severely undermining government conservation activities undertaken at the field level. Fourthly, due to the weakening law and order situation in the countryside many conservation and development projects funded by international donors were terminated. Fifthly, as a counter insurgency measure the government changed forest policies during the conflict period,

imposing heavy taxes on community forests, controlling the bank accounts of the CFUGs and also discouraging CFUG forest enterprises, which made the working situation of the CFUG very challenging. Lastly, during the insurgency period, CFUGs had to bear a double tax burden as they had to pay tax both to the government as well as to the Maoist *jansarkar* (Maoist People's Government) which undermined their profits from forest management and also crippled community development activities carried out by the CFUGs with these funds. The functioning of community-based forest governance, the access of different socio-economic groups to forest resources, and the impact of conflict on the livelihoods of forest dependent rural communities as well as on the forest itself was unclear. The empirical chapters of this thesis investigate the impact of the decade-long armed conflict on community forest governance, environment and the livelihoods of people in forest dependent rural communities in the Middle Hills region of Nepal. As background to the three case studies investigating these issues in Kavrepalanchok District, the following chapter provides an overview of the development of community forestry in Nepal.

Chapter 4

Forest Policy and Governance in Nepal: An Overview

This chapter reviews the history and evolution of forest policy and governance in Nepal. Forest governance in this context is understood as the rules, institutions and policies that govern the conduct of institutions and individuals in the forest sector. The chapter discusses the impact of forest policies formulated under different political regimes on the environmental conditions of the forest and the well being of the people dependent upon it. The chapter also critically examines the impact of more recent community forestry programs on local level resource governance and livelihoods. Finally, it discusses the emerging issues in the governance of forest commons and sustainable management of common property resources at local level.

4. 1. Background

Nepal has an area of 147,181 sq. km., of which the forest area covers 55,180 sq. km., approximately 39% of the total area. 23.23% of the country has been delineated as national park and conservation areas (DoFRS 1999a; Tamrakar 2003, 1; DNPWC 2010). Nepal ranks twenty-fifth globally in biodiversity, with 118 ecosystems, 75 vegetation types and 35 forest types, 5,100 flowering plants (out of which 370 species are considered endemic), 1,600 species of fungi, and over 460 species of lichen. Although Nepal occupies only 0.1 % of the earth's surface, it possesses over 2% of the world's flowering plants, about 9% of the world's bird species and 4% of the world's mammalian species (FAO 1999, 6; ADB and ICIMOD 2006, 42).

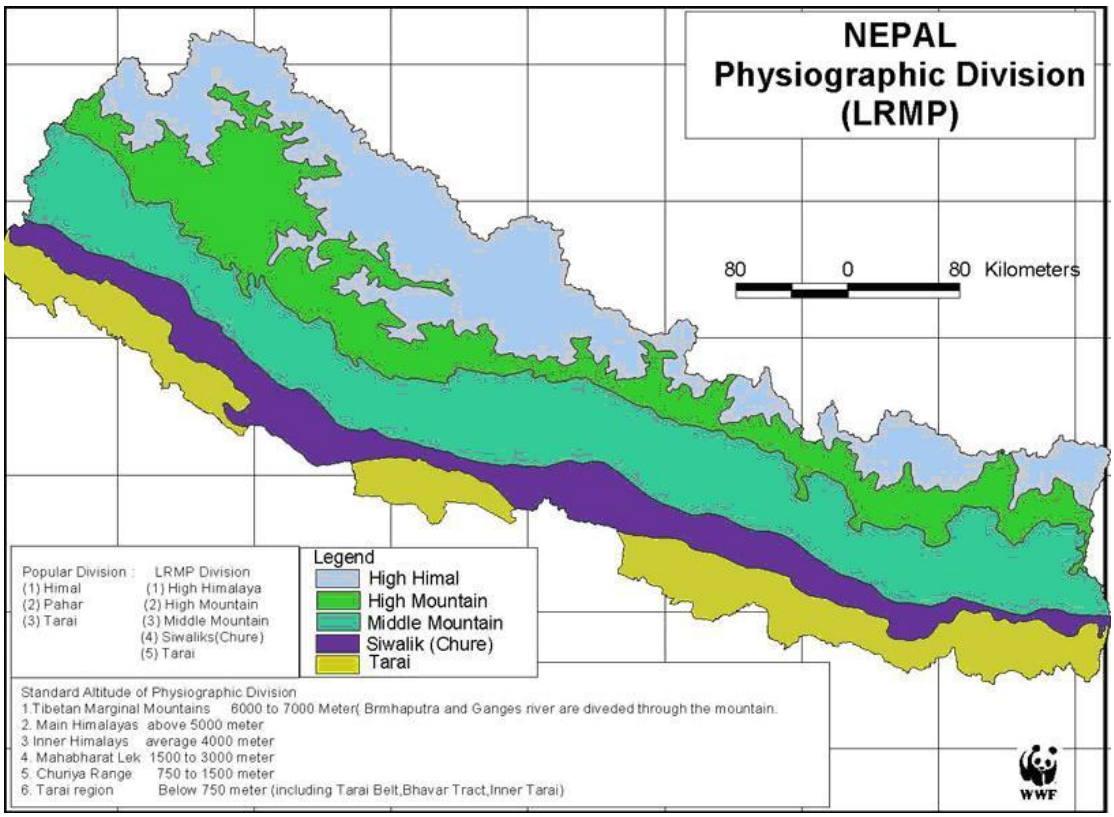
Nepal is divided into five physiographic zones with varying climatic conditions and forest types. The climate, ecology and forest type is greatly influenced by topography of the country (FAO 1999).

Table 4.1: Physiographic Zones

Physiographic zones	Elevation	Area(1000 ha)	Area in %
Terai	Less than 500 meter	2,111	14
Siwaliks	500-1000 meter	1,886	13
Middle Hills	1000-3000 meter	4,443	30
High Mountain	3000-5000 meter	2,959	20
High Himal	Above 5000 meter	3,350	23

Source: (CES 1998)

Map 4.1: Map of Nepal Showing Physiographic Zones



Source: {WWF, 2001 #1433}

Table 4.2: Forest Types of Nepal, Classified on the Basis of Altitude

Altitude (m) above sea level	Climatic zones	Type of forest
0 - 1000	Sub-tropical	Shorea robusta, Pinus roxburghii, Mixed forest
1000 - 2000	Warm temperate	Pinus roxburghii, Mixed forest
2000 - 3000	Cool temperate	Pinus wallichiana, Mixed forest
3000 - 4000	Sub-mountainous	Pinus wallichina, Mixed forest
4000 - 4500	Mountainous	Arundnaria, Grassland
4500 and above	Alpine	-

Source: DOF (1995, 4)

Nepal's economy is still largely rural and agrarian. Rural communities in Nepal still depend heavily on forest resources for their livelihood and wellbeing, although there has been a gradual shift in livelihood patterns from traditional agriculture to non-farm sectors in recent years (ADB and ICIMOD 2006, 23). About 99% of the population residing in the mountains and 88% in the hills use fuel wood as a main source of household energy; 37% of the fodder needs of their livestock are also met from forests (FAO, 1999). Forest utilization, farming and animal husbandry are well integrated and provide the main source of livelihoods and food security in Nepal. About 86% of people in Nepal reside in rural areas and, 66% of the employed population are engaged in agriculture, forestry and fisheries (ADB and ICIMOD 2006, 23; Acharya 2002).

The forest is an important source of plant nutrients as chemical fertilizers are costly. Leaf litter collected from the forest is used as bedding material for livestock which is converted to compost and used as organic manure for maintaining soil fertility (Mahat, 1987)[35]. Forests are also important for watershed conservation and for regulating water flow (Shepherd and Gill 1999; Dougill et al. 2001, 263). Forests are the source of non-wood forest products such as medicinal and aromatic plants (MAPs), lokta[36] (*Daphne Bhoula),* resin, wild fruits, vegetables and numerous other life supporting resources. Moreover, collection of medicinal plants from the alpine region constitutes an integrated part of household strategies providing 3 to 44% of the total annual household income (Olsen and Larsen 2003, 243-254). There was an old and popular saying – *"Hariyo Ban Nepal Ko Dhan"* (Green forest is the wealth of Nepal). However, over the last several decades, Nepal's forest has undergone massive deforestation, which is mainly attributed to the illegal clearing of forest for agricultural land, political instability and deficient land use and tax policies of the government (Metz 1991).

[35] See, for example, Mahat (1987) for a detailed account of forest and farm linkages in the mountains of Nepal.

[36] *Lokta* botanically known as *Daphne Bhoula* or *Daphne Papyracea*, is an indigenous plant of Nepal. It is found at the altitude of 6500 feet to 9500 feet from the sea level. The bark of the Lokta has long been used as raw material for paper-making. Paper made from Lokta is non-perishable in water, and highly resistant to insects like silverfish, paper crawlers etc.

4. 2. Forest Policy and Governance in Nepal

State forest management history in Nepal has been broadly classified in three different phases (Hobley and Malla 1996, 65-92) – privatisation (1768 – 1951), nationalisation (1951 – 1987), and populism (1987 onward). In a similar way, other scholar divide the forest history of Nepal into four phases i.e. pre-1957 (before unification), from 1957 to 1976 (forest nationalization), from 1976 to 1988 (emergence of participatory forest policy and legislation) and 1988 onwards (inception of community forestry policy and legislation) (Gautam, Shivakoti, and Webb 2004, 137-140). For this research, I examine the forest policy based on the political regime as changes in political regime directly affected forest policy.

4. 2.1. Forest Policy before Unification

There is not much known about forest management practices, policies and forest governance systems during the early historic period in Nepal. Forest legislation evolved from simple indigenous codes of practice which existed throughout the hills for centuries, although there is little documentation (Gautam 1993). During King Ram Shah's regime (1606-1636) few codes that relate to forest use have been reported. Among those on record are the 12th Code – that refers to maintaining communal grazing land; 13th Code – that deals with maintaining trees along paths; and 14th Code – that requires maintaining trees around water springs (Gautam 1993). Prior to 1743, and before unification in 1769, Nepal was divided into 46 small principalities (Malla 2001, 290; Joshi and Rose 1966, 4). During that period state policies were directed towards clearing forest and encouraging peasant farmers to cultivate more land. The petty states aimed to strengthen their hold by bringing all land under state ownership and increasing the tax base (Stiller 1975; Griffin, Shepherd, and Mahat 1988, 45; Bhattarai and Khanal 2005; Malla 2001, 290)[37].

[37] See Mahat, Griffin and Shephered (1986a) for an account of state forest policy from the 17th century to the mid 19th century.

Historically, natural resource management in Nepal involved two forms of control and management: one at the formal level of centralized government bureaucracy, and the other (informal) at the local level, where rural communities have been developing and enforcing their own indigenous practices and customary rules (Chapagain, Kanel and Regmi, 1999). Prior to 1957 the local level forest management system was not governed by any comprehensive legislative framework. It was under the control of informal local level institutions and customary rules. During the Rana regime, most of the forests in the hills of Nepal were under the control of local village leaders known as *talukdar*[38]. The *talukdar* were entrusted by the state as revenue collectors, and also had law enforcement authority. Besides the land revenue collection, the *talukdar* were also responsible for regulation of access to the forest and forest products distribution. The *talukdar* appointed *chitadars*/*chaukidars* (forest watchers), who were responsible to control the illegal activities in the forest under the supervision of *talukdar* (Regmi, 1978 cited in Fisher, 1989, 4). However, after the collapse of the Rana regime, the externally sponsored system of forest management, commonly known as *"talukdari"* system collapsed, and villagers resorted to their own systems of forest management (Fisher et al 1988, 24) (Gilmour 1989, 12). The following table summarizes the work of a number of researchers into the indigenous forest management system that operated in Nepal[39].

[38] The term *talukdar* is a generic term covering a number of different types of local tax collectors (Regmi, 1978).

[39] For further information on the indigenous system of forest management in Nepal, see for example, Arnold and Campbell, 1986), Fisher (1989, 1991), Fisher et al (1990), Molnar (1981), Masserschmidt (1985).

Table 4.3 Indigenous Forest Management Systems in Nepal

Management system	Location	Main elements of the system
Kipat	Eastern hills of Nepal	Land was under *kipat* tenure, controlled by the local tribes where members of the community can use forest and pasture land; however, non-members had to pay fees for use (Arnold and Campbell 1986, 428-429; Fisher 1988, 4).
Communal collection	Far-west of Nepal	Communal harvesting and gathering of forest products like fodder, leaf-litter and equal distribution among the members (Arnold and Campbell 1986, 428-429).
shingo naua	Khumbu region	In the mountain Khumbu region below Mount Everest, reserved forests were controlled collectively by the community. The *Sherpa* headman appointed *shingo naua* (forest guards) for the control of forest use. The *shingo naua* had delegated power to levy fines on the illegal harvesting of timber. They had authority to check wood stocks in every household to prevent violation of rules. As forest growth is very slow in high altitudes, this system was adopted for the regulated distribution of timber for construction. Permits could be granted for house building and wood required for funerals (Fürer-Haimendorf 1964, 110-111).
Religious forest	Throughout the Mountains and Hills of Nepal	Forests were harvested only for religious purposes (Arnold and Campbell 1986, 429).
Manapathi	Throughout the Hills of Nepal	Forest watchers, appointed by the villagers for forest protection, were paid with grain collected from member households (Campbell 1978).
Controlled cutting	Myagdi district	Villagers were allowed to cut only dead and fallen trees and leaf-litter (pine needle) to avoid fire. Villagers had to pay a small fee for accessing forest products and donate grain for forest watchers. Villagers plant trees in groups; the forest watchman was hired from among the poorest villagers. Fodder can be collected only during winter, and thatching material can be harvested only in fall. Trees were allowed to be cut only for house construction; non-members are excluded from the use of forest products. Goats are restricted from grazing inside the forest but cattle grazing were allowed with some restriction (Masserschmidt 1985, 460).

Studies show that indigenous forest management systems were operational in most parts of the middle hills and mountains, where villagers devised their own local governing rules, harvesting only selected products and species based on resource conditions, limitation on harvesting based on season, time, quantity, equipment to be used, area, and agency (women, children, hired labour), harvesting on rotation in order to control illegal harvesting and to allow regeneration, harvesting within a specified time period to avoid uncontrolled

cutting and assure equity in products distribution (Arnold and Campbell 1986, 437-448). In some instances local communities used to keep aside a patch of forest as *raani ban* (queen forest) with utilization of such forest permitted only for a few months and left undisturbed to regenerate for the rest of the year. A study by (Molnar 1981) shows that even after the private forest nationalization by the state in 1957, people in the hills of Nepal (Gerkhu village of Nuwakot district and Singhana village of Baglung district) were protecting and managing the forest effectively on communal as well as private land. It can be concluded that the indigenous system of forest management evolved in the hills and mountains of Nepal to address the scarcity of forest products and worsening local environment. It is evident that people are very much aware of their natural environment and proved able to address many problems of resource management through local mechanisms.

4. 2. 2. Forest Policy after Unification (1769 – 1847)

In 1769, the Gorkha King, Prithvi Narayan Shah unified Nepal after conquering the petty principalities including Kathmandu valley and created what is now the modern state of Nepal (Joshi and Rose 1966). After the unification of Nepal, an active land reclamation policy was adopted by clearing forests in the hills of Nepal. People were encouraged through local functionaries to clear forest, build irrigation canals and establish settlements. It is reported that the policy of land conversion, especially in the fragile hill slopes of Nepal, caused serious problems of landslides, erosion, and drying of water sources (Bhattarai and Khanal 2005, 16). In order to accelerate the process of conversion of forest into agricultural land, the state proclaimed that the newly converted lands could not be taxed for three years. As peasant farmers normally paid half of their produce either to the state in tax or to the landholder, who had been given the land in recompense for services to the state, conversion of forest into agriculture for additional food production was the only means the peasant farmers had to pay rent or tax and maintain their livelihoods (Ives and Messerli 1989, 48). As population pressure increased in the hills a great deal of forest was converted to agricultural land during this period. However, the *Terai* region, which was heavily covered by dense forest and sparsely populated, was left relatively

untouched in the *Terai*, the Southern belt of Nepal near the Indian boarder, the government maintained a policy to protect the forest as a defensive natural barrier (Hamilton 1819, 51-52; Ojha 1983, 23). At the same time it is reported that in order to fulfil the demand for armouries for the state, large areas of forest were harvested to meet the supply of charcoal for iron smelting, especially in the Sindhupalchok and Kabhre Palanchok districts adjoining Kathmandu (Ives and Messerli 1989, 48).

4. 2.3. Forest Policy during the Rana Regime (1847-1950)

In the mid-1800s, the king's power was restrained by the Rana family, who assumed hereditary premiership for 104 years. In 1854, the first Rana Prime Minister, Junj Bahadur Rana, introduced a legal code *"Muluki Ain*"[40] including a section which prescribed fines for cutting trees on communal land based on their importance for the local environment (Gautam 1993). Although Nepal was never a part of the British Empire, policy during the Rana regime was heavily influenced by colonial ideology that was directed towards commercial exploitation of the Terai forests (Bhattarai and Khanal 2005, 1). In 1927, the regime embraced a policy of harvesting economically valuable timber and other forest products from the Terai region and exporting it to British India. Aside from earning foreign currency, it is believed that the decision to export timber from the Terai region to India was to avoid invasion by maintaining good relationships with the British. Beside the sale of timber Prime Minister Jung Bahadur Rana supplied 200,000 railway sleepers free of charge from the Terai forest to the government of British India as there was heavy demand for 'railway sleepers' for the expansion of the Indian railways (Collier, 1928 quoted in Gautam, 2006: 179).

During the 1920s, the government cleared considerable areas of virgin forest for large scale settlement schemes, mainly in the Rapti valley and Morang area (Ojha 1983, 25), to maximize rent and tax. Since hill people were reluctant to

[40] *Muluki Ain* is a collection of administrative procedures and legal frameworks for interpreting civil and criminal matters, revenue collection, landlord and peasant relations, inter-caste disputes, and marriage and family law. In 1854, Prime Minister Jang Bahadur Rana commissioned leading administrators and interpreters of texts on *dharma* (religious scriptures) to revise and codify the legal system of the nation into a single body of laws. A 1,400-page Muluki Ain was prepared.

migrate to the Terai due to the fear of malaria and other endemic diseases, the Rana regime encouraged Indian settlers to migrate in the Terai by providing them with credit, food, health services and free timber for home construction, in addition to a land tax exemption for 10 years (Ghimire 1991, 71; Ojha 1983, 25). Those who brought settlers into this scheme and helped in the process were rewarded with land grants (Ojha 1983, 25). The forest policy adopted by the Rana regime suggests that, aside from some attention to the regulation of communal forest during their 104 years of rule (1847-1950), the regime was primarily concerned with the commercial exploitation of Terai's productive forest. After the clear felling of trees in the settlement areas, large quantities of timber become available for sale to British India that generated a substantial amount of money for the Rana regime (Ghimire 1991, 71).

The earliest forest policy document on Nepal known to have been written in the modern era is a report prepared by J. V. Collier in 1928, a British Forest Officer, who had worked in British India. Collier was contracted by the Rana regime to advise government on commercial exploitation of the *Terai* forest and to prepare a plan for harvesting. He worked as a Forest Advisor for five years from 1925 to 1929. Under his supervision massive felling was carried out in Western Nepal, a similar operation was carried out in the Morang area of the eastern Nepal to increase the land available for agriculture. Due to extensive felling of trees the forest became heavily depleted. Subsequently, two missions were carried out by British foresters in 1941 and 1947 with the main objective of advising the government on the establishment of a forest service in Nepal (Robbe 1954, 4).

Modern forest administration in Nepal began in 1925 with the establishment of the Forest Inspection Office (then known as *Ban Jaach Goswara*) and *Kathmahal* (Timber Office). In 1941, the government appointed E. A. Smythies, a British forester, as a forest adviser who prepared a working plan to manage the *Terai* forest. On his advice, in 1942, the government established the Department of Forests and set up a separate Forest Service (Robbe 1954, 4). After the establishment of the forestry organization, a large part of the Terai forest was cut

down, and the regime distributed almost one-third of the forest land as *birta*[41] to various *Rana* families, civil and military officials, and members of nobility, chieftains of conquered principalities and others loyal to them. Moreover, government employees and functionaries were paid for their services through assignment of lands under *jagir* tenure[42] (Regmi 1978; Chapagain, Kanel, and Regmi 1999). The income generated from the sale of timber from the Terai forest profited mainly the Rana family (Wagley and Ojha 2002, 5; Regmi 1978; Lynch and Talbott 1995, 38). The Rana regime appointed local landlords as functionaries (*talukdar*) of state for revenue collection. They were also entrusted with controlling forest access and the distribution of forest products (Regmi 1978; Fisher 1988, 4; Springate-Baginski et al. 2003). Although the *birta* and *jagir* system was practised by the state from the early unification period, the expansion of these tenure practices greatly increased during the Rana regime. The system of *birta* and *jagir* during the Rana period enabled those in power to appropriate huge areas of land under private ownership, including large tracts of forests, mainly in the Terai region (Regmi 1971). It is believed that from the inception of the Rana regime until its end in 1951, one-third of farmland and forests fell under the birta tenure, with 75% of this belonging to the Rana family (IUCN 2000, 60).

Even though the Rana regime prepared forest policy for the management of the Terai forest (mainly oriented toward extraction), there was no policy formulated to regulate this large scale exploitation of the forests in the Hills and Mountain zones. But *de facto* recognition of the local *kipat* system[43], the *talukdari* system[44] and the indigenous forest management system in the hills of Nepal remained. The following systems of forest governance were operational in the hills of Nepal in 1910:

[41] *Birta* was a grant of land given to a noble as a reward for a service rendered to the state. *Birta* was usually both tax free and inheritable, and had no set time limit to tenure. It was valid until it was recalled or confiscated (Regmi 1978),

[42] *jagir* was also a grant of land given to government employees (civil or military) in lieu of salary. The *jagir* land grant was also tax free but remained valid only as long as the concerned person served the government.

[43] *Kipat* is an ancient type of communal land tenure, applied to both cultivated and forested land. Under this system, a community was granted land by the king in recognition of traditional communal tenure. On such lands, the headmen gave individuals the right to till certain areas and to collect forest products from other areas (Regmi 1978)

[44] As described above, the *talukdari* is a local functionary (usually hereditary) of the state, which existed until the 1950's. The term *talukdar* is a generic term referring to local tax collectors.

Table 4.4: Official Forestry Organization in the Hills Region of Nepal in 1910

	Central	District	Village
Institution	Prime minister *Muluki-adda* *Ban-goswara*	*Goswara* *Addas*	*Talukdar*
Functions	Policy formulation	Judicial action	Execution against offenders

Source: (Gautam 1991)

4. 2.4. Forest Policy after the Advent of Democracy (1951 to 1961)

In 1951, Nepal underwent a dramatic change after the overthrow of the Rana regime by a democratic movement under the leadership of *Prajaparishad* and the Nepali Congress party. The new government put more focus on social reform and national development. In 1951 the government entered an agreement with the Food and Agriculture Organization (FAO) obtaining the technical assistance of two forestry experts to advise government on a long term forest policy and prepare the necessary legislative reform to implement it. The mission's objective was mainly focussed on preparing a plan to protect the forest, with emphasis on reforestation, soil conservation and preservation of natural resources (Robbe 1954, 5). During the 1950s a massive land reform program was undertaken. After the end of the Rana regime, the newly formed government abolished *jagir* tenure in 1951[45] and enacted the Birta Abolition Act in 1959. Those forest lands under *birta* tenure now came under state control, subject to taxation as agricultural land or nationalized as forest (Hobley and Malla 1996, 69; Ojha 1983, 27).

4. 2.4.1. The 1957 Private Forest (Nationalisation) Act

In implementing land reform, the government proclaimed the Private Forest (Nationalisation) Act 1957, seizing forest land owned by local elites and de facto private owners who had obtained land as *birta* or *jagir* during the Rana regime. These lands were to be put in the service of national development and the welfare of the people (Malla 2001; Regmi 1978; Joshi 1993).The main aim of

[45]District revenue officers replaced *zamindars*, the landlord functionaries responsible for collecting tax with limited powers of land administration)

this Act was to end feudal tenure by bringing the *birta* and *jagir* land grants under the domain of the Forest Department (IUCN 2000).

Under the Forest Nationalization Act 1957 (CPFD 1995) individuals could keep only 1.25 hectares of forest in the hills and 3.25 hectares in the Terai as private forest. The Act aimed: firstly, to dis-empower the elites and those people loyal to the Rana regime; secondly, to increase state revenue; and thirdly, to open up the newly acquired forest lands to resettle migrants from the hills of Nepal (Chapagain, Kanel, and Regmi 1999, 5-6). The objective was to bring this economically and environmentally valuable national forest asset from private monopoly under state control, and increase the productivity of the forest by putting it under active management. However, the legislation was negatively received by the general population as it also curtailed the customary rights of access and use of forests by ordinary people (Belbase and Regmi 2002, 1; Arnold and Campbell 1986, 430; Wallace 1983, 224). The newly enacted forest law did not provide any assurance or compensation to those who were deprived of land ownership or customary access, which created insecurity among rural people. The response towards the Private Forest (Nationalisation) Act differed among socio-economic groups.

According to (Malla 2001, 292-293) the peasant farmers welcomed the government decision to nationalize private forests in general because they felt that they no longer had to seek permission from local elites and functionaries to access and use forest products (although the Act did not necessarily guarantee free access). Moreover, the peasant farmers would not have the obligation to provide gifts and free labour to local functionaries in return for permission to access the forest. Newly disenfranchised elites encouraged peasant farmers to cut more trees in the hope that the government might reverse its policy of private forest nationalization. Bromley and Chapagain (1984) attribute accelerated forest degradation, especially in the hills, to the 1957 Private Forest Nationalization Act (Bromley and Chapagain 1984). After private forest nationalization, people lost their sense of ownership of the forest, and increased their harvesting of trees on their private property as well as in nearby state forest in an effort to secure

land tenure rights (Belbase and Regmi 2002, 6; Regmi 1978; Bajracharya 1983b; Palit 1996, 21).

Before 1957, the forest was not classified under any land tenure policy of the government. At that time only two kinds of land tenure existed: raiker (state landlordism) and kipat (communal ownership). In 1968 *kipat* and *raiker* land tenure was abolished and replaced by three kinds of land tenure: private holdings, institutional holdings and state holdings (Wallace 1981, 121). As there was no cadastral survey defining clear boundaries between national and private forests, people quickly cleared the forest in the hope that the land without trees could be registered as private property (Regmi 1978; Bajracharya 1983b; Wallace 1987; Palit 1996, 21). Moreover, the newly enacted Private Forest Nationalization Act could not differentiate between those people who had been conserving forest on their private land for decades and those who had originally acquired vast areas of valuable productive forest from the state as *birta* tenure. Given the remote and isolated geography of the hills and mountains, the existing poor forestry infrastructure, limited human and financial resources and the weak capacity of the government to effectively implement the act, as well as the absence of an effective monitoring and enforcement system, the government was not able to cope with the strict and challenging forest administration provisions set by the Private Forest (Nationalisation) Act 1957 (Hobley and Malla 1996). The 1957 Private Forest (Nationalisation) Act undermined the traditional forest management system without replacing it with an effective alternative, and forests were soon regarded as an open-access resource (Hobley and Malla 1996; Arnold and Campbell 1986).

In addition to the nationalization of forests, government resettlement policy also contributed to deforestation in the Terai region of Nepal. The government viewed the Terai as a region for potential development to relieve overpopulation in the Middle Hills. Vast areas of Terai forest were cleared for settlement purposes and to increase the area of farmland (Kolmair and Muller-Boker 2002, 75). The government initiated the planned resettlement programme by establishing *Nepal Punarvas Company* (Nepal Resettlement Company) in 1964, and since then a series of resettlement projects were implemented (Ojha 1983,

29-30). Between 1955 and 1988 the government distributed 116,648 ha of forest land to 100,658 families for farming, and it is believed that an equal amount of forest area was encroached (Joshi 1993). The Nepal Malaria Eradication Organization was established in 1958 to control malaria infestation in the densely forested region of the Terai, and by the 1960s the incidence of malaria was largely controlled (Ojha 1983, 28). After the eradication of malaria in the *Terai* region, large numbers of people from the Middle Hills migrated to this area, with serious impact on the Terai forest as the settlement process was haphazard and uncontrolled (FAO 2000, 6). The 1977 Land Tax Act also encouraged forest clearing (Pardo 1993). Even after the establishment of forest offices in the country, due to the lack of cadastral surveys, and reliable statistics on the forest itself, government could not distinguish public forest from private landholdings, which caused frequent disputes between local people and the forest department.

It is clear that by the 1950s there was already severe pressure on the forests, mainly from expanding agriculture and grazing due to the rising population. In 1954, a field trip carried out by an FAO forestry expert to the *Mahabharat* range reported that people complained about the gradual disappearance of the forest and the shortage of basic forest products (Robbe 1954, 24). Robbe (1954, 3) found that forests in the mountains were facing severe degradation from over-felling, over-grazing, lopping and annual burning.

4.2.5. Forest Policy and Governance during the Panchayat Regime (1961 to 1990)

After the end of the Rana regime, and a short period of multi-party democracy, King Mahendra dismissed the government and replaced it with the "partyless" *Panchayat* system[46] (Rose 1963, 16). The 1957 Private Forest (Nationalization) Act was supplanted by the 1961 Forest Act, which remained the legislative framework for forest management until 1990. Gradually, the government established District Forest Offices in all 74 districts, a process completed only in

1983 (CPFD 1995, 1). The 1961 Forest Act further cemented the government's control over forest, curtailing even the use rights of local communities (Ribot, Agrawal, and Larson 2006, 1871; Graner 1997, 42). This act provided the government's forest department with absolute authority and control over forests (policing, licensing, controlling and administrative authority), overlooking local people's right of access to forest resources, and undermining the indigenous system of forest management (Regmi 1978; Gilmour and Fisher 1991). Since then the government expanded its role and established forest based industries in the Terai region by harvesting and marketing timber to India to generate revenue for its development activities. The Act imposed strict penalties if anybody entered the forest to collect any forest products. Under the 1961 Forest Act collection of the following products from state forest was prohibited (Graner 1997, 42-43):

i. timber, charcoal, gum, wood-oil, bark;
ii. Trees, leaves, fruits, flowers, *mahuwa* (*Bassia longifolia*), *chiraito* (*Swertia chiretta*) and other categories of wild herbs, medicinal and other plants, as well as their parts; and
iii. Mines, rocks, clay, and all categories of minerals.

Strict penalties consisting of fines and imprisonment of up to one year depending on the nature of crime were provided (Graner 1997, 42-43). The same act also made provision to hand over government forests to local communities as community forests through local *Panchayats*. However, without proper operational guidelines for implementation, that principle was not effectively translated into practice. Chapter 3, clause 25, under the "power to separate state forests", stated that government may separate state forest or parts thereof in any prescribed area for public use (translated in Regmi NMS (13/89: 12/13, cited in Graner, 1997). Further, chapter 5, clause 29, under the heading "Delivering Power of the State", stated "any government forest or any part thereof may be handed over to the *Panchayat*. Ownership of the forest handed over to *Panchayat* remained with government (29/2) and rights conceded could be cancelled (29/3). Although these provisions were not implemented, it can be argued that the 1961 Forest Act did recognize the community's potential role in forest management.

In 1967, the government promulgated the *"Forest Protection (Special Arrangements) Act"*, which further consolidated its control over the forests by criminalizing even the slightest transgression of state forest regulations. This act has provided special authority to the District Forest Officer (DFO) including the power of arresting forest offenders without warrant, filing cases against forest offenders, and also adjudicating against a case filed by department of forestry staff in a *"One-person Special Court"* (Kanel 2006, 4; IUCN 2000, 60). This act provided unlimited power to forestry officials, which was largely misused and increased corruption (Wagley and Ojha 2002, 10). In the same act under the "Removal" clause, "the act of bringing or attempting to bring any product outside the forest boundaries" exceeding the value of NRs. 50/- was prohibited and it was forbidden "to cut off, fell or enclose any tree or plant within forests, extract the bark in such a manner as to cause trees to wither, chop branches, or set forest on fire". Those who committed such acts would be penalized to the value of the damage plus an additional 10-40% of the damage or a maximum fine of NRs. 2000, and/or imprisonment of one year. The Act even authorized forest security personnel to shoot any person who entered the national forest illegally. The 1957 Private Forest (Nationalisation) Act and 1967 Forest Protection (Special Arrangements) Act 1967 were guided by the philosophy that government is the sole agent responsible and capable of conserving the forests, and forest conservation is possible only through enactment and enforcement of state regulations preventing public access and use (Bromley and Cernea 1989, 8). The 1974 Range Land Nationalization Act nationalized all pasture land. This Act curtailed the customary rights of the people to use communal land for grazing livestock, and had serious negative impacts on people in the mountains of Nepal whose livelihoods were based on income from livestock rearing (Bhattarai and Khanal 2005, 20-21; Upreti and Adhikari 2006, 24).

In May 1979, a major political movement was launched against the *Panchayat* system that forced King Birendra to call for a nationwide referendum to determine the future form of government. In the referendum which was held on May 2, 1980, an improved version of the Panchayat system was chosen. During this period it is estimated that about 4% of the forest land was cleared.

Apparently the government turned a blind eye to the illegal cutting as forest resources were mobilized to gain financial support required for the election, and also as a means to gain public support in the referendum (ICIMOD 1995).

4. 2.5.1. Emergence of New Modes of Governance in the Forest Sector

Before colonization, natural resources in the Asian region were either under the effective control of local communities or were available to them as open access. During that time local people were managing and harvesting the common-pool resources (CPRs) under established customary rules and practices (Persoon and van Est 2003, 1-2). However, since colonization, authority over most commercially important natural resources was appropriated by colonial governments. After independence, national governments in most cases did not change natural resource management policy in favour of the people (Korten 1987, 275; Persoon and van Est, 2003, 2; Webb 2008, 25). Since then there has been a rapid rise in deforestation, mainly because of the demand of timber in the expanding global market and the inability of central governments to control the vast area of forest land theoretically under central government control (Berkes 1994, 19; Persoon and van Est 2003, 3). After the failure of these centralized resource management regimes, governments in many developing countries began a paradigm shift to natural resource management from a top-down to a bottom-up approach, acknowledging the role of local communities in local resource management. This paradigm shift has brought about changes in the policy framework and legislation in favour of devolution of power from government bureaucracy to the local level (Arnold 1992; Hobley 1996, 2).

By the late 20th Century international attention was drawn to the loss of biodiversity and the impact of environmental degradation worldwide (Goodland, Ledec, and Webb 1989, 148). During the 1970s, Nepal faced severe and wide-spread deforestation in the mountains as a consequence of growing population pressure and inappropriate forest policy that threatened the livelihoods of the people (AusAID 2006). The publication of Erik Eckholm's 1975 article "Deterioration of Mountain Environments" amongst others, stimulated

heightened interest among environmentalists, policy planners, and academics concerning the rapid deterioration of the Himalayan environment:

> …there is no better place to begin an examination of deteriorating mountain environments than Nepal. Villagers must roam farther and farther from their homes to gather fodder and firewood. Ground-holding trees are disappearing fast among the geologically young, jagged foothills of the Himalayas. Topsoil washing down into India and Bangladesh is now Nepal's most precious export, but one for which it receives no compensation (Eckholm 1975, 764-65).

The debate on the theory of "Himalayan Environmental Degradation" became intense among scholars, attracting serious attention in the international community and among policy makers[47]. The degradation of the mountain environment and loss of livelihoods in the Nepalese Himalaya and the downstream effects of flooding and erosion in the lower *Gangetic* plain, especially in India and Bangladesh, created a sense of urgency among international donors and national governments. Since then many conservation projects have been launched in Nepal[48]. In 1978, the World Bank conducted a forestry sector review of Nepal, and recommended a massive reforestation program in the hills of Nepal, to respond to the severe shortage of fuel-wood (Kanel 1998).

Since the mid-1980s however, the theory of Himalayan degradation has come under scrutiny, and various empirical studies have challenged the notion that

[47] It is argued that the deterioration of the fragile ecosystem of the Nepalese Himalayas is compounded by high population growth that forces farmers to clear forest and cultivate in marginal lands to fulfil the demand for food in a vicious circle, which further degrades the mountain ecosystem and the productivity of agricultural land (Eckholm 1976; Eckholm 1975). However, various studies criticize the theory of Himalayan environmental degradation on the grounds that the theoretical construct is overly simplistic, and insufficiently grounded in empirical data (Ives 1987, : 189) Griffin, Shepherd and Mahat, 1988, 43; Fox 1993, 98; (Bajracharya 1983a, 1057). (Ives and Messerli 1989) conclude that the fundamental problem in the Himalayas is not environmental, but socio-economic and especially political (Thompson and Warburton 1985; Fox 1993; Mahat, Griffin, and Shepherd 1986b, 1986a; Griffin, Shepherd, and Mahat 1988).

[48]Conservation projects were launched in the Nepalese Himalayas including the USAID funded Resource Conservation and Utilization Project (1980-1985); AusAID funded Nepal- Australia Forestry Project (1978-1983) in Kavrepalanchok and Sindhupalchok districts, Asian Development Bank (ADB) loan funded Sagarnath Forestry Development Project (1979-1985); the USAID funded Rapti-Integrated Rural Development Project (1980-1985); the World Bank funded Community Forestry Development and Training Project (1980-1985); the Finnish assisted Forestry Sector Project initiated in 1983; FAO funded Kulekhani Integrated Watershed Management Project launched in 1987; Tinau Watershed Management Project (1980-1985); Integrated Hill Development Projects (1975-1980) launched in Dolakha district under the Swiss Agency for Development and Cooperation (SDC);followed in 1991 by the Dolakha Ramechhap Community Forestry Project (DFCFP). The UK Department for International Development (DFID) assisted four Koshi Hill Rural Development Projects (1979-1984) and launched a Livelihood Forestry project in 2001 (Wallace 1981, : 148; AusAID 2006; Tiwari 2002; Negi 1994; ADB 1987; Arnold and Campbell 1986, : 440). Moreover, the Nepalese government established the Department of Soil Conservation and Watershed Management in 1974 to conserve the watershed area and control soil erosion, landslides and flooding.

subsistence farmers in the hills were the root cause of the problem of deforestation. Rather it has been argued that they are an integral part of the solution[49]. These studies point to the close linkages between farms and forests in the hills, where farmers, from time immemorial, practiced well managed terrace systems that are less prone to erosion (Carson 1985). They found that farmers in the hills are maintaining a substantial number of trees on their private land. Thus, farmers' ignorance and mismanagement could not be the sole or even the primary cause of deforestation. Rather, the real cause of deforestation had been the misconceived land policy, tenure arrangements and forest policy of the government (Kolmair and Muller-Boker 2002, 77). Studies conducted by several scholars (Carter and Gilmour 1989; Virgo and Subba 1994; Gilmour and Nurse 1991) on the Middle Hill region of Nepal indicate that during the period 1964-1989 there was a significant increase in the number of trees per hectare on private land.

The forestry sector in Nepal has faced serious management problems since the enactment of the Private Forest (Nationalization) Act 1957 and Forest Act 1961. Both Acts conferred absolute authority over forest management and administration on the forest department, where administrative inefficiency and lack of technical and financial resources made it impossible to implement forest policy. Moreover, forest resources were in decline and there was increasing conflict between the forest department and people. In this context, in 1974, the Department of Forest organized the Ninth National Forestry Conference in Kathmandu, in which forestry professionals from various districts participated, and which for the first time arrived at a resolution in favor of community participation in forest management, recommending that the government formulate a policy to this effect. In 1978, the Food and Agricultural Organization of the United Nations (FAO) organized the Eighth World Forestry Congress, with the theme "Forests for People," and also promoted the concept of community involvement in forest management. This was further promoted by the publication of a document by FAO "Forestry for Local Community Development" (1978), considered a milestone in the promotion of community

[49] For detail see, Ives and Messerli (1989); Thompson and Warburton (1985); Griffin *et al.* (1988), Mahat *et al.* (1986a and b)

forestry. Later, FAO and the Swedish International Development Administration (SIDA) were actively involved in promoting community forestry programs around the world (Arnold 1992; Hobley 1996, 6; WINROCK 2002, 5).

An interesting experiment had been taking place since 1966 with the assistance of the Australian government to reforest the denuded hill slopes in two districts of the Middle hills region of Nepal. This partnership between the Nepalese and Australian governments had a very significant impact in the forestry sector of Nepal, especially in the inception and strengthening of the community forestry programme (AusAID 2006, 5-7).[50] With the realization of the adverse impacts of the Private Forest (Nationalization) Act, the government of Nepal introduced a series of policy interventions from 1975 onwards, to address the deforestation problem (Springate-Baginski et al. 2003, 11). In response to the recommendations of the Ninth Forestry Conference, the government formulated a "National Forestry Plan"[51] in 1976, which for the first time fully acknowledged the role of local communities and the importance of their active participation in forest management. The Plan provided a policy framework for participatory forest management programmes in the Hills of Nepal (Bajracharya 1993). After two decades of forest nationalization, this policy shift opened an

[50] Australian support to the forestry sector of Nepal began in 1966 by sending the first technical adviser, AD (Tony) Cole. During first phase the Australian assistance was concentrated mostly on advisory roles, establishment and improvement of nursery practices, plantation, and special trials. In January 1976 the project was formally renamed *"Nepal-Australia Forestry Project".* During its second phase (1978-86), managed by the Australian National University's Forestry faculty, the project worked with the government to introduce public participation in plantation establishment and forest management. The Nepal-Australia Forestry Project's third phase (1986-1991) promoted the concept of community forest user groups (CFUG) in the management of local forests. Its fourth phase (1991-1997) focused more on developing methodologies for sustainable forest management for subsistence and market use, capacity development of the forest users through training and fostering income generation through CFUGs (Karki and Eijnatten, 1997). The fifth phase of what was by then known as the Nepal-Australia Community Resource Management Project (NACRMP), from 1997 to 2002, focussed on promoting sustainability of Forest User Groups (FUGs) by providing post-formation support to CFUGs and developing methodologies that enabled the application of participatory resource management and watershed management principles to a wider range of ecological and social situations. The sixth phase, launched in 1 February 2003, ended in June 2006. Its main objectives were reducing poverty by developing and institutionalizing equitable and sustainable community based natural resource management systems, building capacity of local communities in community resource management and improving livelihoods. During the four decades long partnership (1966-2006), the Nepal Australia Community Forest Project established 21,000 ha of plantations, and 42,500 ha of natural forests have been handed over to 800 community forestry user groups (CFUGs) (Karki and Eijnatten 1997; AusAID 2006).

[51] The National Forest Plan, 1976, aimed to maintain ecological balance through the management of forests; reduce incidence of floods, landslide and erosion; meet local needs for timber, fuel wood and fodder; protect and conserve wildlife; expand and establish National Parks and Wildlife reserves; mobilize forest resources for sustained economic growth, promote forest based industries and export of value-added forest products, promote reforestation, and adopt scientific forest management. It also aimed to expand the scope of forest administration, launch forestry extension, involve the public in forest management; conduct surveys, inventory and research; develop human resources, generate employment opportunity and promote overall socio-economic development.

avenue of partnership between the state and local community in forest management. The amendments to the 1961 Forest Act and the promulgation of the Panchayat Forest (PF) Rules and Panchayat Protected Forest (PPF) Rules in 1978, the legal basis for handing over government controlled forests for management and use through local village Panchayats, are considered the foundation for the emergence of the community forestry program in Nepal (Gautam and Shivakoti 2008). Subsequently, government enacted the 1982 Decentralization Act and the 1984 Decentralization Regulation that strengthened the provisions made in the PF and PPF regulations to hand over the forest to local institutions. According to the provisions of the PF and PPF, lands without trees and those that are completely degraded could be handed over to Panchayats (the lowest administrative and political unit during the Panchayat regime) as "Panchayat Forest," and those communal lands with trees could be handed over as *"Panchayat Protected Forest"*. After hand-over, villagers had to reforest and conserve these forests. These rules provided responsibility to Village Panchayats to protect, conserve, manage and use forest products based on operational plans approved by the government (Manandhar 1980; Gautam and Shivakoti 2008). Although the Panchayat Forest Rules of 1978 provided the legal basis for devolution of authority over government controlled forest to local village Panchayats, these rules still did not take into account the effectiveness of traditional resource management systems of the local communities. Critics argue that these rules could not be seen as a genuine "shift from administrative-centred to people-centred forestry", as they put more emphasis on the control of forest through local political institutions based on administrative boundaries rather than peoples' indigenous institutions and traditional boundaries of forest management (Graner 1997, 47). The PF and PPF regulations provided the authority of forest management to a state established political institution, namely the local Panchayats[52], rather than to local users. These rules take into account the political boundary while handing over the forest, ignoring the natural and traditional/social use boundaries for forest management (Kanel, Poudyal, and Baral 2005; IUCN 2000). Among other consequences, these regulations excluded many traditional users who happened to reside outside the Panchayat

[52] The *Panchayat* in this context should be understood as a formal lower level political institution under the Panchayat regime rather than an informal traditional Panchayat that was functional in earlier times.

boundary, leading in many cases to non-functional committees and disenfranchised users (Hobley and Shah 1996). As the forest was handed over to Panchayats rather than to real users, people felt that they did not have a stake in forest management (CFDD 1991, 17; Kanel, Poudyal, and Baral 2005, 70). The PF and PPF rules also failed to devise a clear procedure for how the authority of forest protection, management and utilization would be transferred to the community. According to PPF rules, out of total income generated from these forests 75% and 25% of the income has to be divided between the Panchayat and government respectively. The income first had to be deposited in the government's treasury and in the next year the amount would be handed over to the Panchayat account. People felt that there was no guarantee that the funds deposited by them in the government treasury would reach the Panchayat account. Such policies created mistrust among the people that severely undermined the forest handover process (Kayastha and Karmacharya 1987, 6). The newly enacted PF rules stipulated that only degraded land without trees could be handed over to local Panchayats. Furthermore, there were no initial benefits and incentives to encourage long term management. Despite the policy shift, apparently the bureaucracy was still not fully convinced that local institutions could be trusted with sustainable management of the forest. The forest bureaucracy did not want to lose its hold over the forest by delivering its power to local communities.

4. 2.5.2. Master Plan for the Forestry Sector (MPFS), 1989

Despite the government's efforts to protect the forest through revised legislation, there was continuing decline in the status of the forest. The situation in the Hills and Mountains was so alarming that there was pressure on the government to address this issue urgently. The Master Plan for the Forestry Sector (MPFS), prepared with the support of the Asian Development Bank (ADB) and Finnish International Development Agency (FINNIDA), was officially approved by the government in 1989 (Graner 1997, 47). This comprehensive visionary forest policy and planning document, prepared for 21 years (1989-2010), was the first of its kind. The long-term objectives of the MPFS were to meet the people's basic needs for forest products on a sustained basis; conserve ecosystems and

genetic resources; protect land against degradation and other effects of ecological imbalance, increase food production through effective co-ordination in forestry and agriculture farming systems, create opportunities for employment and income generation through forest management and development of forest-based industries, and contribute to local and national economic growth.

The MPFS emphasized that all the accessible hill forests of Nepal should be handed over to user groups (not to the *Panchayats*) "to the extent that they are able and willing to manage them" (CFDD 1991, 14). It encouraged involvement of women and the poor in the management of CF and reorientation of forestry staff as extension agents, service providers and advisors rather than administrators and controllers. It is reiterated that the central policy aim of the plan is "… to develop and manage forest resources through the active participation of individuals and communities to meet their basic needs" (CFDD 1991, 14). To achieve this aim, the MPFS laid out plans, policies and resource needs for implementation of the programmes. It was envisaged that all accessible hill forests would be handed over to local communities by the year 2010 (DOF and FAO 1997). MPFS provided the basis for people's participation in management, and for reforming the organisational structure of forestry in order to achieve organisational goals. The MPFS identified six major forestry sector programmes, out of which the community and private forestry programme was prioritized. The community and private forestry programme is the largest and has received 47% of the total budget allocated (Hobley and Malla 1996, 79; CFDD 1991, 14). The six major forestry sector programmes recognized by MPFS are:

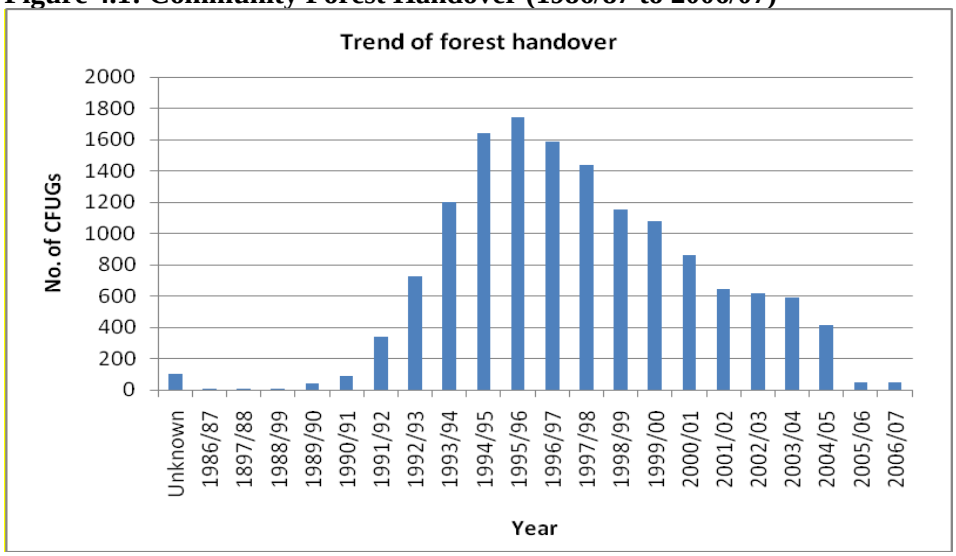
i. Community and Private Forestry
ii. National and Leasehold Forestry
iii. Conservation of Ecosystems and Genetic Resources
iv. Soil Conservation and Watershed Management
v. Wood Based Industries
vi. Medicinal and Aromatic Plants and Other Minor Forest Products

To achieve the objectives set by MPFS, several supportive programs were identified: i.e. policy and legal reforms, institutional reforms, human resource development, research and extension, forest resources information systems and

management planning, and monitoring and evaluation (CPFD 1995, 6). The MPFS endorsed the concept of community forest user groups (CFUGs) and also identified the need for further amendment to the existing forest regulations.

The MPFS also recognized the role of women in forest management and emphasized the need for training and reorientation of the entire forestry staff under the Ministry of Forest and Soil Conservation for their new role as advisers and extensionists (Hobley and Malla 1996, 79). The MPFS 1989 is considered to be a landmark and turning point in the history of forest management in Nepal, marking the beginning of the 'populist' phase of forestry policy. The MPFS placed significant emphasis on the user group concept and recognized local users as the custodians of local resource management (Wagley and Ojha 2002; Gautam and Shivakoti 2008; Kanel, Poudyal, and Baral 2005, 71-72). The user group approach enabled the incorporation of traditional forest users beyond Panchayat political boundaries, which was restricted by the previous PF and PPF rules. Unfortunately, for political and bureaucratic reasons, the community forestry program in Nepal could not gain momentum and the handover process was very slow. Only with the enactment of the 1993 Forest Act, was the community forest handover process accelerated (Figure 4.1).

Figure 4.1: Community Forest Handover (1986/87 to 2006/07)



Source: Community Forestry Division, Department of Forest, 2008[53]

[53] Data received from Forest Officer, Mr. Bala Ram Kandel, Community Forestry Division, Department of Forest, Kathmandu, Nepal, 11/27/08

As the forest handover process was too slow under the *Panchayat* system, in January 30, 1990 the Department of Forest (DoF) prepared "Operational Guidelines for the Community Forestry Programme" in order to expedite the handover process. The objectives stipulated in the guidelines (MoFSC 1990, 6) were:

- to hand over the state forest area to communities which had traditionally used them; to meet daily requirements for fuel, fodder, leaf litter and timber;
- to establish forest plantations by active participation of communities;
- to encourage private plantation by the distribution of free seedlings; and
- to encourage the installation of fuel efficient cooking stoves.

The main reasons behind the slow progress of forest handover were firstly, that official procedures were complicated and lengthy; and secondly, the user group based approach of MPFS could not bypass the village *Panchayats* until the system was terminated in 1990 (Fisher et al. 1990).

4. 2.6. Community Forestry Policy and Governance: After the Restoration of Multi-party Democracy

In 1990, the thirty year *Panchayat* regime was overthrown by the people's movement and multiparty democracy was restored (Hachhethu 1994, 91). Subsequently the democratically elected government promulgated the 1993 Forest Act and the 1995 Forest Regulations and repealed the 1961 Forest Act. The 1993 Forest Act devolved substantial authority of forest governance to local communities. According to the 1993 Act, Nepal's forests are now classified into six sub categories (CPFD 1995, 6) with designated governance responsibilities (see Table 4.5).

Table 4.5: Types of Forest, Objective and their Management Responsibilities

Type of forest	Management objective	Governance responsibility
Government managed forest	National Forest to be managed by state for timber and other forest products.	Department of Forest
Leasehold forest	Any part of the National Forest granted to a corporate body, industry or community under a leasehold to produce raw materials required for industries, promote tourism, scientific management of insects, butterflies and wildlife through NGOs and industry, and also to promote agro-forestry to reduce poverty by allocating leasehold forest to poor families, to enable them to increase incomes from forest products and livestock and improve livelihoods.	NGOs, industry and community groups
Religious forest	National forest handed over to any religious body, group or community desirous to develop, conserve and utilize the National Forest of any religious place or its surroundings.	Any religious body, group or community
Community forest	National forest handed over to a community to develop, conserve, use and manage, permitting it to sell and distribute the forest products according to Operational Plan (OP).	Community Forest User Groups (CFUGs)
Protected forest	National Forest protected for its special importance in terms of environmental (biodiversity), scientific or cultural importance.	Department of Forest
Private forest	Privately owned forest where the individual owner has rights to develop, conserve, manage and utilize for private purposes.	Individual, industry, NGOs

Source: (MoFSC 1995)

The 1993 Forest Act embraced the user group approach, and adopted the policy framework of the MPFS, a progressive policy approach decentralizing authority over forest management from the state to local communities (Belbase and Regmi 2002). The 1993 Forest Act, the 1995 Forest Regulations and subsequent operational guidelines assured local community access to forest resources.

The 1993 Forest Act defines community forests as "national forests handed over to the forest user groups (CFUGs)[54] for protection, management and utilization". Since the devolution of power from government to the local community, the role of CFUGs in sustainable forest management and good forest governance has been considered important in addressing the issues of gender, equity, social inclusion and poverty alleviation in the rural context (Dahal and Chapagain

[54] 'Community Forest User Groups' refers to "those individuals or communities who are dependent on a certain forest area to meet their day-to-day requirements for forest products, and those who would be directly affected if they did not have access to the forest products of such forest areas, and are naturally prepared to participate in protection, management and utilization of such forest area" (CPFD 1995, : 9).. There is general consensus on the broad definition of community forests emphasizing the management of forest by people for communal and household benefit (FAO 1987, : 1; Shepherd 1985, : 317).

2008, 67). This represents a clear shift in government policy towards recognizing the indigenous system of forest management and rights of people to manage the forest rather than considering the forest management a state monopoly (Bhattarai and Khanal 2005, 45). Since the enactment of community-based forest policy, many international donors like the World Bank, United States Agency for International Assistance (USAID) and Overseas Development Agency (ODA) have provided financial and technical assistance to the Nepalese government for the implementation of community forestry projects throughout the Middle Hills region (Kanel 1998; Gautam and Shivakoti 2008).

The Department of Forest assessment of the forests of Nepal shows that out of 5,500,000 hectares of total forest area in the country, 3,561,649 hectares (which is 64.76% of the total forest area) could potentially be handed over to communities as community forest. In Kavrepalanchok district alone 50,469 hectares of forest has potential to be handed over as community forest (CPFD 1995, 85-87).

Table 4.6: Potential Community Forest Area, Nepal

Region	Potential Community Forest (ha)		
	Forest Area	Open Area	Total
Eastern Region	417,983	259,861	677,844
Central Region	335,934	248,098	584,032
Western Region	446,977	458,552	905,529
Mid-western Region	403,311	468,455	871,766
Far-western Region	320,021	202,456	522,477
Total(Nepal)	1,924,226	1,637,422	3,561,648

Source: (CPFD 1995, 85-87)

4.2.6.1. Legal Instruments Guiding Community Forestry Governance Mechanisms

As most of the forests in the hills of Nepal were fragmented in small patches, the management of forest by communities themselves proved the most viable option for the sustainable management of the forests. Community forest user groups

(CFUGs) are formed based on the traditional use rights[55] of local communities following preparation of an Operational Plan (OP) through a participatory process. Before finalising the OP, consultations across community social groups including women's groups, socio-economically disadvantaged and ethnic groups are required. The aim of such consultations is to identify the interests and expectations of various social groups and to build consensus among users for better forest management. The salient features of CF according to the 1993 Forest Act and the 1995 Forest Regulations are summarized below (MoFSC 1995):

- The Forest Act, 1993, Section 25 (1) states that the District Forest Officer may handover any part of a National Forest to a Users' Group in the form of a Community Forest as prescribed, entitling them to develop, conserve, use and manage the forest and sell and distribute the forest products independently by fixing their prices according to an Operational Plan (OP)[56]. However, the ownership of forest remains in the hands of the government. (Section 13 (64);
- While handing over a Community Forest, the District Forest Officer shall issue a certificate of alienation of the Community Forest to the CFUG. (Section 25 (1);
- Section 43 (1) of the 1993 Forest Act recognizes a CFUG as an autonomous and corporate body having perpetual succession that can acquire, possess, transfer or otherwise manage moveable and immovable property, and has the right to manage and use forest resources, but the ownership of the land itself lies with the government;
- The handing over of national forests to communities as community forest will have priority over leasehold forests (Section 30 of the 1993 Forest Act);
- Forest Regulation (2) provided that CFUGs can plant short-term cash crops including non-timber forest products inside the community forest,

[55] 'Traditional user' refers to those individuals or communities who are dependent on a certain forest area to meet their day-to day requirements for forest products, and who would be directly affected if they did not have access to the forest products of such forest area.

[56]The Operational Plan (OP) is a routine legal document prepared by user groups and approved by the District Forest Office for the management of a particular forest area under their jurisdiction. The OP outlines activities to be carried out for the protection, management and utilisation of a given forest, and how and when such activities are to be undertaken.

with the exception of cereal crops, without adversely affecting the crown cover, and such activities have to be included in the operational plan;

- CFUGs are entitled to maintain their funds from grants received by government and other local institutions, from the sale of CF products and money received from other sources such as fines (Rule 36);
- CFUGs can spend funds on any kind of community development work and can amend their operational plans by informing the DFO (Rule 28 (2);
- In cases of forest offences, CFUGs have authority to punish their members according to their constitution and operational plan (Section 28 of the 1993 Forest Act);
- In cases of deviation from the approved operational plan and failure to manage the forest properly, resulting in damage to the forests, then the DFO can cancel the registration of the CFUG and withdraw the community forests from the CFUGs. However, the CFUGs may file a complaint against the decision to the Regional Forest Director, and the DFO must give the forest back to the CFUG once the committee is reconstituted (Sections 27 and 28 of the 1993 Forest Act).

Community forestry governance in Nepal involves a co-management approach between the state forest department and local forest user groups. Although local CFUGs have received considerable authority over forest governance at the local level, the state forest department has responsibility for monitoring and overseeing the governance activities undertaken by the CFUGs. For example, every year the CFUG has to submit an annual report to the District Forest Officer (DFO), who may provide suggestions to CFUGs if necessary. The 1995 Forest Rule 32(1) gives authority to the CFUG to collect, sell, and distribute forest products. However, when selling forest products outside the community, the CFUG is required to provide data on forest products sold to DFO. Likewise, according to Rule 32(3) the CFUG can run a forest-based industry, but is required to obtain approval from concerned authorities based on the recommendation of the DFO. The CFUG is free to undertake any conservation activities in the forest.

Activities that are prohibited inside the CF include: transfer of ownership, clearing for farming, hunting, quarrying, building huts and houses inside the forest, and any activities that may cause erosion. The forest regulation authorizes CFUGs to take loans from financial institution using forest products as collateral and can build a hut for security purposes with approval from the DFO concerned. While preparing the OP, the CFUG may ask District Forest Officers (DFO) for technical guidance, especially during preparation of forest inventories and operational plan formulation. Until recently, the operational plan included only basic forest resource assessments. After amendments to the CFUG operational guidelines in 2002, every CFUG is now required to prepare a comprehensive forest resource inventory with the formation of a new CFUG or revision of the existing OP. The main elements to be included in the Operational Plan under the 1995 Forest Regulations (Rule 28) are as follows.

Table 4.7: Elements of CFUG Operational Plan

Elements of the CFUG Operational Plan	
a. Details of the Forest - name, boundaries, areas, condition of the Forest and types of Forest	g. Nursery, tree plantation, income generating programme and time schedule
b. Map of the Forest	h. Details of areas suitable for the cultivation of herbs, types and species of such herbs, cultivation programmes and time schedule
c. Block division and their details- name, boundaries, areas, aspects, slope, soil, type of the Forest, main species, useful species, age and situation in respect to natural regeneration	i. Provisions relating to use of income accruing from the sale of Forest Products and other sources
d. Objectives of Forest management	j. Provisions made for the penalties which may be inflicted on users pursuant to Section 29 of the Act (fines and penalties are prepared and enforced by the CFUGs depending upon local circumstances and vary between the CFUGs),
e. Method of forest protection	k. Provisions relating to the protection of the wildlife
f. Forest promotion activities- thinning, pruning, cleaning and other Forest promotion activities	l. Other matters prescribed by the Department

Source: (MoFSC 1995)

Process of Forming a Community Forest User Groups (CFUG)

According to the 1995 Forest Rules and the 1996 Community Forest Directives, communities residing in a particular area and willing to form a CFUG need to be

organized in a group based on traditional use rights to the forest and the spirit of the user group. According to the guidelines prepared by the DoF, there are five major phases (refer table 4.7) to be followed during the community forestry development process (CFD 2001, 1-2)[57]. The most important part in this process is the identification of real users to avoid conflicts at a later stage. While identifying users, some of the criteria to be taken into consideration are: distance to the forest area; interests of the users; the nature of dependency on the forest; existing indigenous system of forest management; and the mutual understanding and aspirations of users to work as a collective team (CPFD 1995, 11-12). During the process of identification of real users, the DoF forest technician plays a facilitating role. Moreover, the participation of all users in the meeting, especially the involvement of poor and disadvantaged, is required. Traditional users are classified into three categories as primary user[58], secondary user[59] and tertiary user,[60] based on the dependency of users on the forest and nature of the use. The detail of the CF development process is presented in the following table (see Table 4.8).

[57] The initial guidelines for community forestry development were published in 1995 and upgraded in 2009. In both sets of guidelines, five major phases have been identified in the community forestry development process. Based on experiences gained during the previous two decades, more emphasis has been given to empowerment and community-based approaches when developing any new CFUGs.

[58] Primary users are those who are directly adversely affected if the resource is depleted; generally such users live in or around the forest area and may have been using forest resources as an inseparable part of their farming system and benefit from the conservation and management of the forest.

[59] Secondary users are those who are not directly affected if the forest is depleted as they have alternative resources to meet their demand for forest products. They generally live on the outskirts or further away from the forest area, but frequently come to the forest for collecting forest products.

[60] The third category of users are those who live below the forest area (downhill), use certain indirect forest resources like water for drinking and irrigation, but do not use forest products and generally are not directly impacted due to adverse effects of forest depletion. Those living downhill generally are affiliated with other CFUGs, thus they do not have a direct stake in the more distant uphill forest.

Table 4.8: Community Forestry Development Phase

Phases	Role of Forest Users	Role of DFO
1.Identification and Empowerment	Identify potential CF area and form a User Committee to discuss and prepare constitution and operation plan (OP)[61]; Prepare the list of forest users based on traditional use rights and local norms; Hold thorough discussions with local political institution, traditional institutions, ethnic groups and other organizations; Form a committee to prepare constitution and operational plan (OP); Prepare social and resource map of the forest and the community and discuss with users to resolve conflict if there is any; Identify real users of the forest and organize a joint meeting with forest technicians from DFO.	Rapport building with forest users. Discuss formation procedure for CFUG with users, existing forest policies, acts and regulations and their rights and responsibilities, and implementation process; Assist forest users in identifying different socio-economic groups (class, caste, gender and disadvantaged) living in every hamlet; Collect social and technical information on forest; Assist community in preparing social and resource map; Discuss traditional system of forest management and issues of participation, equity, gender, livelihoods and sustainable forest management issues.
2.CFUG Formation and Registration	Collect all socioeconomic profiles of forest users; Identify special interest of forest users who are totally dependent on forest for their livelihoods; Prepare basic framework of CFUG constitution; Organize a general assembly (GA) of all forest users to discuss the constitution; Give priority to the participation of women, poor and marginalized sections of the community in GA meetings; Formulate User Committee (UC) ensuring representation of poor, women and disadvantaged people; Apply for the registration of CFUG at DFO with the minute of GA meeting	Discuss with all stakeholders and create an environment for free and fair discussion and take account of local opinion in shaping decisions, identify the interests of disadvantaged groups; Facilitate UC to organize separate hamlet meetings; Assist forest users to prepare CFUG constitution; Attend forest users assembly and provide information as sought by the users regarding community forest development; Ensure at least 50% representatives are from women, poor, and marginalized sections of the community; Register the CFUG and provide certificate of registration
3.Preparation and Registration of Operational Plan (OP)	Prepare participatory resource map; Prepare action plan based on resource condition, socio-economic status of users, environmental status and other issues identified by users; Divide the forest area into blocks, sub-blocks, working units as per the condition of forest, geography, and needs of the group; Prepare forest management plan (management practices, annual harvesting plan, distribution of forest and NTFPs); Provide income generation activities, training and other human resource development needs of the community; Organize interest group and Tole (hamlet) meetings; approve OP through users assembly and submit an application to DFO for obtaining CF.	Assist users in preparing participatory resource map including socio-economic and environmental status of forest and community, data analysis, and forest boundary survey; Assist users in preparing forest inventory (stock, annual increment, species diversity), and detailed action plan for sustainable forest management practices, including identifying environmental benefits; Facilitate CFUG meeting to prepare an operational plan that incorporates issues of forest management, institutional development and community development; Review and approve the OP submitted by CFUG within 30 days of receiving application by the user's assembly; and if found within the framework of the 1995 Forest Act and 1995 Forest Regulation forest hand CF over to community with certificate.

[61] The Operational Plan (OP) is a collection of directives on forest protection, conservation, and utilization activities - protection, thinning, weeding plantation, collection and harvesting regime and the sharing of benefits - specifying how and when activities are to be undertaken. It is based on the decision of users and formally signed off by the chairman of the users group and the District Forest Officer.

4.Implementation Phase	Organize meeting with CFUG members in each hamlet to inform them about the CFUG constitutional provisions and operational plan; Prepare annual plan and implement pro-poor and livelihoods improvement program and sustainable silviculture operation, forest product utilization and forest-based enterprise development activities; Adopt good forest governances practices like public hearings, participatory monitoring, public auditing of income and expenditures and inclusive decision making including poor, women and disadvantaged groups; Conduct outcome assessment every year among different socio-economic groups; Networking and coordination with other organizations Human resource development of its users; Submit annual report to DFO about its activities.	Assist CFUG is meeting their capacity development through technical training, administrative, and human resource development needs through annual budget received from DoF; Assist in resolving emerging issues and problems as requested by the CFUGs.
5.Review and Revision of Constitution and Operational Plan (OP) Phase	Conduct extensive discussion with CFUG members regarding proposed amendments based on past experiences and lessons learned and incorporate their view point; Revise Constitution and OP based on needs of users, forest condition and experience and learning of the past; and Endorse revised Constitution and OP through GA meeting and submit to DFO within 15 days for approval.	Provide CFUG with necessary information about the resources available from the government; Assist CFUGs in constitution and OP preparation and amendment process and priority should be given to weaker CFUGs; Approve revised constitution and OP; and Agreement between CFUG and DFO

Source: (CFD 2009, 2001)

After the preparation of the Constitution and Operational Plan (OP) it is submitted to District Forest Office (DFO) for approval. The DFO reviews the operational plan in line with the CF Act, Regulations and Guidelines, and finally an agreement is signed between DFO and the Chairman of the CFUG; after which the DFO hands over the forest to CFUG (Bhattarai and Khanal 2005, 47-48). According to the present rules on community forests the communities are independent in carrying out forestry activities and use of forest products and NTFPs, as long as these operate according to the approved Operational Plan.[62] With the amendment of the 1993 Forest Act in 1999, it has been mandated that CFUGs have to invest 25% of the income generated from CF in forest management activities, and the remaining 75% can be invested in any local community development activities (HMG 1999)[63]. These policies have encouraged local communities to participate more actively in forest conservation and management.

[62] See Chapter 5 of the 1993 Forest Act.
[63] Section 48, additional issue 69 of *Nepal Gazette* published on February 4, 1999.

As of July 2008, of the 3.5 million hectares of potential CF in the country (which is 65% of total forest), the government of Nepal has handed over 1,230,000 hectares (35.14%) of government managed forests to 14,440 CFUGs involving 1,660,000 households. The CFUGs are now one of the biggest grassroots organizations in rural Nepal and are considered very important to the livelihoods of the majority of people, who depend on agriculture and animal husbandry to maintain their livelihoods.

Table 4.9: Status of Community Forest in Nepal (as of July 2008)

Total land area of Nepal	14.7 million ha
Total forest area	5.5 million ha
Potential Community Forest area	3.5 million ha
Community Forest handed over to communities	1,230,000 ha
Total number of CFUGs	14,440
Total number of households involved	1,660,000
Average Community Forest size	85 ha
%age of potential forest area already handed over	35.14%

Source: (CPFD 1995, 85); Kandel (2010)[64]

The official statistics of forest handover reveal that the progress of handover of the government forest to local communities has been slow. The MPFS planned to hand over all the potential CF area to local communities by 2010. However, if the present trend of forest handover continues it seems that it may take at least another two decades to complete the process.

4.2.6.2. Actors, Institutions, and Nesting in Community- Based Forest Governance

CFUG governance activities in Nepal are organized into multiple layers of nested organizations. There is vertical (across levels of organizations) and horizontal (across space) interplay among various institutions related to CFUG activities. Commons literature suggests that neither the local-level nor higher-level resource management initiatives are likely to functions well if they are functioning independently, as natural resource management almost inevitably implicates cross-scale temporal and spatial relations in the modern period

[64] Pers. comm. Balaram Kandel, Forest Officer at the Department of Forest, Community Forestry Division, 2/05/2010

(Berkes 2002, 293). Those management systems that address the issues of dynamic linkages and interactions among multiple scales and multiple levels are more successful in improving the environment and livelihoods of the resource users (Cash et al. 2006).

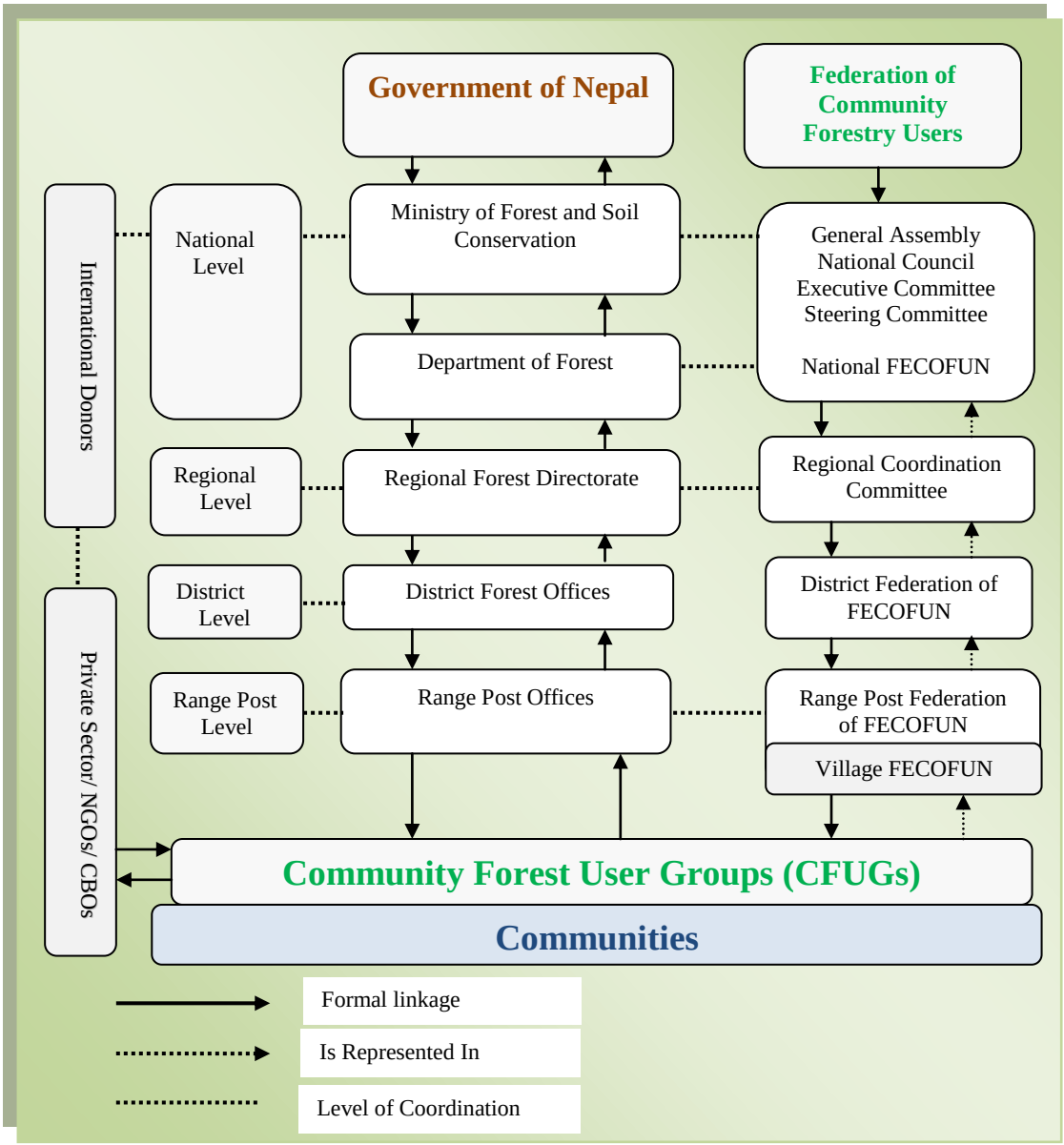
With decentralization in Nepal there has been a sharing of responsibilities between the state forest agencies and CFUGs. There are different interest groups, including women's groups, savings and credit groups, youth clubs, and local village-level political institutions (hamlets, VDCs and municipalities) bargaining with CFUGs at the local level, as well as with government agencies at district and national level to influence community forestry policy formulation and outcomes of CF management. CFUG rules, regulations and management activities operate within the broader framework of Forest Act and Regulations, where both state forest agencies and local CFUGs have important roles to play. The Forest Department has delegated a substantial degree of forest governance authority to local people and at the same time they also provide training, technical and financial resources for CFUGs.

The 1993 Forest Act provides that the CFUG may amend their operational plan and constitution through the general assembly meeting of the CFUG; however, they must inform the DFO regarding such amendments. If the DFO considers that the amendments may have significant negative impacts on the local environment, it may direct the CFUG not to implement them. In extreme cases the DFO may cancel the registration of the Users' Group and take back the Community Forest. However, the DFO must restore the community forest to the same CFUG or to a new reconstituted committee, after a proper investigation of the case. These provisions of the Forest Act are intended to provide the checks and balances of a nested governance arrangement, which would ideally enable the monitoring, enforcement, and conflict resolution of self-governing natural resource institutions (Ostrom 1992, 75).

Figure 4.2 illustrates the multi-layered community forestry governance structure, actors, and institutions. Multiple actors, both formal and informal, are engaged with state forest agencies and community forest user groups (CFUGs). The vertical structure of state forestry offices from national level to Range Post level is paralleled by Community Forest User Groups (CFUGs) at the village level, incorporated into FECOFUN in the National level. In 1995 the Federation of Community Forestry Users, Nepal (FECOFUN) was established as a formal network of Community Forest User Groups (CFUGs) from all over Nepal, with a main objective of strengthening the role of users in policy making processes. FECOFUN has networks from local to national level to advocate for CFUGs locally, nationally and regionally. To a large degree the day to day authority over forest management has been shifted from government to CFUGs where millions of people are organized under the FECOFUN umbrella. As of July 2009, more than 1.6 million households are affiliated with 14,439 CFUGs around the country. [65].

[65] Pers. comm. Balaram Kandel, Forest Officer at the Department of Forest, Community Forestry Division, 2/05/2010

Figure 4.2: Forest Governance Structure in Nepal



Source: (Dahal and Chapagain 2008, 71; FECOFUN 2010) with modification

Forest governance in the state sector is administered through the Ministry of Forest and Soil Conservation (MOFSC) which has responsibility to implement the forest plan, develop policy and enforce forest acts and regulations for the management and conservation of the forests. Ministry of Forest and Soil Conservation (MoFSC) at the national level, Regional Forest Directorate at the regional level, District Forest Office (DFO) at district level and Range Posts at the community level are engaged in forest governance in Nepal. The Department of Forest (DoF) under the MoFSC is responsible for forest governance and providing support to the community forestry programme through its Community

Forestry Division. The DoF has 5 Regional Forest Directorates, 74 District Offices, 93 *Ilakas* (regional forest offices within the districts) and 698 Range Posts (covering Village Development Committees in the district). The regional forestry directorate is mainly involved in monitoring and supervision of the work carried out by District Forest Offices (DFOs). The District Forest Office (DFO) organizes training programs, workshops, and observation tours annually to upgrade the knowledge and skill of forest user groups. The DFO helps in afforestation and overall forestry administration in the district. The lowest level forest office in the district is the Range Post, whose main duty is to assist and facilitate the work of CFUGs for the effective management of the community forest. The source of funding for Forestry Department infrastructure comes mainly from the national budget. However, there is number of foreign assisted projects providing technical and financial resources for the development of the community forestry program.

The Community Forest Users Groups (CFUGs) at village level are the key actors directly involved in the governance of the forest commons. An important development in CF governance took place in 1990, after the formation of informal networks of CFUGs in the eastern part of Nepal was taken up by the Nepal-UK Community Forestry Project funded by DFID (Ojha and Timsina 2008, 63-64). After a national conference of CFUGs, the Federation of Community Forestry Users, Nepal (FECOFUN) was established in 1995. Since the establishment of FECOFUN, there has been a fundamental shift in the balance of power between the Forest Department and CFUGs. FECOFUN is now playing an active role in safeguarding the rights of community forest users through capacity building, advocacy, and technical support. It is lobbying national and international donors in the forestry sector to strengthen the leadership and institutional management capacity of CFUGs and users' rights over resources and aims to address the problems of equity and the social exclusion of disadvantaged groups in the decision-making processes (Uprety 2003, 102). The FECOFUN Constitution states that 50% of the positions in all FECOFUN committees and CFUGs have to be allocated to women (Paudel and Ojha 2008, 66). As of 30 August 2006, FECOFUN had 74 district chapters, 550 range post level FECOFUN chapters, 14,431 CFUGS and more than 5 million

people are affiliated with FECOFUN, now one of the largest civil society networks in Nepal (Dahal and Chapagain 2008, 73; Agrawal and Ostrom 2001, 500).

The community forestry programme in Nepal has provided a 'space of engagement' (Cox 1998, 2) for local communities to interact on a range of local issues that affect their lives, primarily through the collective management of forest commons. Increased dialogue and partnership with various organizations increases access to information and resources and has therefore allowed the CFUG to manage their local natural resources more effectively (Pokharel et al. 2007, 15; Khanal 2007, 23). In the present community-based forest co-management model in Nepal, state forest agencies have to honour the interests of local forest users, while the CFUG also has to abide by existing forest laws and cooperate with the state forest agencies to conserve and sustainably manage the community forests. Since the initiation of the community-based forest management approach, the government has made several changes to the structure of the forestry department and orientation of its staff to meet the demands of the new concept of community forestry, turning bureaucrats from forest administrators to facilitators.

4.3. Outcomes and Issues Encountered During Initial Phase of Community-Based Forest Management (CBFM)

Nepal has made a major policy innovation by devolving the authority of natural resource governance from state-centric approaches towards community driven approaches in order to address the challenges of environmental degradation, and improve livelihood security and well-being of forest-dependent rural communities through collective action for management of common-pool resources (Ojha et al. 2008, 26; Pokharel et al. 2008, 55). This shift in policy was in response to the failure of the government in the past to manage the forest on a sustainable basis. It is argued that decentralization and devolution of forest governance authority from state to local communities is a promising means of institutionalizing effective community-based forest management (Ribot 2002a, 1). The logic behind devolution of power is that local institutions possess better

knowledge about local needs, are more accountable to the local population, and are in a better position to monitor and enforce resource use rules (Ribot 2004, 3; Ribot, Agrawal, and Larson 2006, 1865). Although decentralization or devolution of authority over forest governance is likely to expand citizen participation in forest management, it is not a sufficient condition for the equitable distribution of benefits and participation in forest governance (Potter 2008, 39). Devolution of power and authority does not automatically empower user groups, unless and until internal social inequalities are addressed (Lachapelle, Smith, and McCool 2004, 8-9; Nguyen 2008, 205; Arora-Jonsson 2008, 62-63; Thoms 2008, 1461-62). The outcomes of community-based forest management (CBFM) have been mixed, with goals of social equity and environmental sustainability often proving elusive (Meinzen-Dick and Knox 1999, 45; Lane 2003, 291; Agrawal and Ribot 1999; Mansuri and Rao 2004, 30; Kellert et al. 2000, 709; Ribot 1995, 1596; Ribot, Agrawal, and Larson 2006, 1881). The following section summarizes the results of different studies assessing the first decades of Nepal's community forestry programme, looking at its early achievements and limitations.

During the initial phase of the Community Forestry programme, the challenge was to build trust between forest department staff and community members, and for forestry staff to reorient themselves as facilitators. The Forestry Department encountered various problems in the implementation of the community forestry program, including lack of staff trained in participatory forestry, lack of financial resources, and few incentives for field level staff (CPFD 1995, 22). Most of the extension programs during the initial phase of the community forestry programme were directed toward forestry staff, project employees, and village leaders, and the knowledge gained by them was not readily transferred to ordinary CFUG members (Malla, Fisher, and Gilmour 1988; Shrestha 1995, 102). The district-level forestry staff encouraged the constitution of user committees quickly without extensive discussions, to fulfil targets set by the Forest Department. The formation of CFUGs was mainly carried out in consultation with village leaders and local elites who took the opportunity to boost their social and political status (Malla, Fisher, and Gilmour 1988). Conflicts emerged during the early stages of community forestry development,

over the failure to identify and include all traditional forest users in the CFUGs, and over benefit sharing (whether to distribute equally to every household or according to the number of family members), in addition to boundary conflicts between and within CFUGs (Shrestha 1995, 103-5; Tumbahanphe and K. C. 1995, 108)[66]. These conflicts hampered the process of transferring community forests, as there were various personal and political factors playing out around the issue. These conflicts mainly arose because the user groups were formed in haste, without proper discussion to identify the issues, problems and interests of different socio-economic groups. The CF programmes as well as the performance of forest officials were evaluated by the number of forests handed over to communities, and there was less attention given to developing the capacity of forest users to manage them efficiently (Karki, Karki, and Karki 1994, 26; Jackson, Vaidya, and Hunt 1995).

In the beginning of the CF program, heavy emphasis was placed on nursery establishment and planting. A seminar conducted in 1991 for sharing early experiences in the community forestry program concluded that in the earlier phase of the CF program, the PF and PPF which had been mandated to govern the community forests through *Panchayats* failed to elicit popular participation, and that conventional silvicultural management systems practiced by the foresters were insufficient to address social, economic, and environmental issues at the local level (Karki, Karki, and Karki 1994, 123; ICIMOD 1992, 3). It is argued that without addressing the existing social divisions by caste, class and gender that are deeply rooted in Nepali society, it is unlikely that the CF program would benefit the poor and marginalized (Hobley 1987, 14). However, some positive results were recognized, including improvement in the fuel-wood situation, greater community access to forest products, and promising and economical regeneration of degraded forests (ICIMOD 1992, 3).

Initially user groups received cash subsidies for nursery operation, plantation development, and for the salaries of forest watchmen. But by the mid 1990s, subsidies phased out and user groups were slowly taking responsibility for all aspects of community forest management (Shrestha 1996, 5). The early

[66] See Banko Janakari volume 5, No. 3 for a detailed account of conflict regarding community forestry.

community forestry program gave more emphasis to forest protection rather than utilization, which resulted in lack of motivation among users (Karki, Karki, and Karki 1994, 124). The CF program at that time was narrowly focussed on protection and only concerned with meeting subsistence needs for forest products (Shrestha 1996, 10). Similarly, there was a lack of long-term policy and planning for the sustainable management of CF, both on the part of government as well as forest users (Karki, Karki, and Karki 1994, 126).

Nonetheless, as the community forestry program evolved, local institutions demonstrated enhanced governance capacity (decision making process, record keeping, information dissemination, mobilization of funds for local development, networking and conflict resolution), and forest dependent communities experienced increased access to improved forest resources alongside some livelihood benefits. A general consensus emerged that Nepal had achieved an appropriate policy and legislative environment for supporting community-based forest co-management at the local level (Pokharel and Tumbahamphe 1999). However, at the same time as observers recognized the many positive outcomes of the CF program, some challenging issues remained to be addressed; primarily elite domination (Shepherd and Gill 1999), effective participation, livelihood improvement, and effective pro-poor initiatives (Pokharel and Tumbahamphe 1999, 100-101).

4.4. Conclusion

It is clear that state policy and practices in the periods before the mid-1970s led to serious deforestation in the Middle Hills and Terai regions of Nepal, and severely disturbed the indigenous system of forest management (Bromley and Cernea 1989, 8). The problem of deforestation in Nepal is a result of many factors – conversion of forest into agricultural land; an exploitative land tenure system; population growth and resettlement programs (Ojha 1983; Metz 1991; Kolmair and Muller-Boker 2002, 75); political instability; and changes in the forest tenure regime – which all impacted on Nepal's forests and on the livelihoods of people living in the hill districts as they encountered severe shortages of fuel-wood, fodder and timber (AusAID 2006, 1). The emergence of

the forest conservation movement spurred a series of policy interventions in the early 1980s, and international donors assisted Nepal in the implementation of a series of forestry and watershed management projects (Arnold 1992; Hobley 1996, 6; WINROCK 2002, 5).

Decentralized forest management policies initiated in Nepal after the enactment of the 1978 *Panchayat* Forest (PF) and *Panchayat* Protected Forest (PPF) Rules received strong policy support after the endorsement of the 1989 Master Plan for the Forestry Sector. Following the restoration of multiparty parliamentary democracy in 1990, the democratically elected government promulgated the 1993 Forest Act and the 1995 Forest Regulations, which further strengthened the local community's control over the management of local forests. Subsequently, the hand-over of government controlled forest to local communities gained momentum, and within a decade millions of hectares of forest were handed over for local management and use.

The following case study chapters critically examine the community-based co-management approach adopted in Nepal as it was applied in three communities in Kavrepalanchok District, in order to assess the effectiveness of the community forestry program in terms of governance, livelihood improvement, and environmental sustainability before and during the period of the Maoist insurgency, 1996 - 2007.

Chapter 5

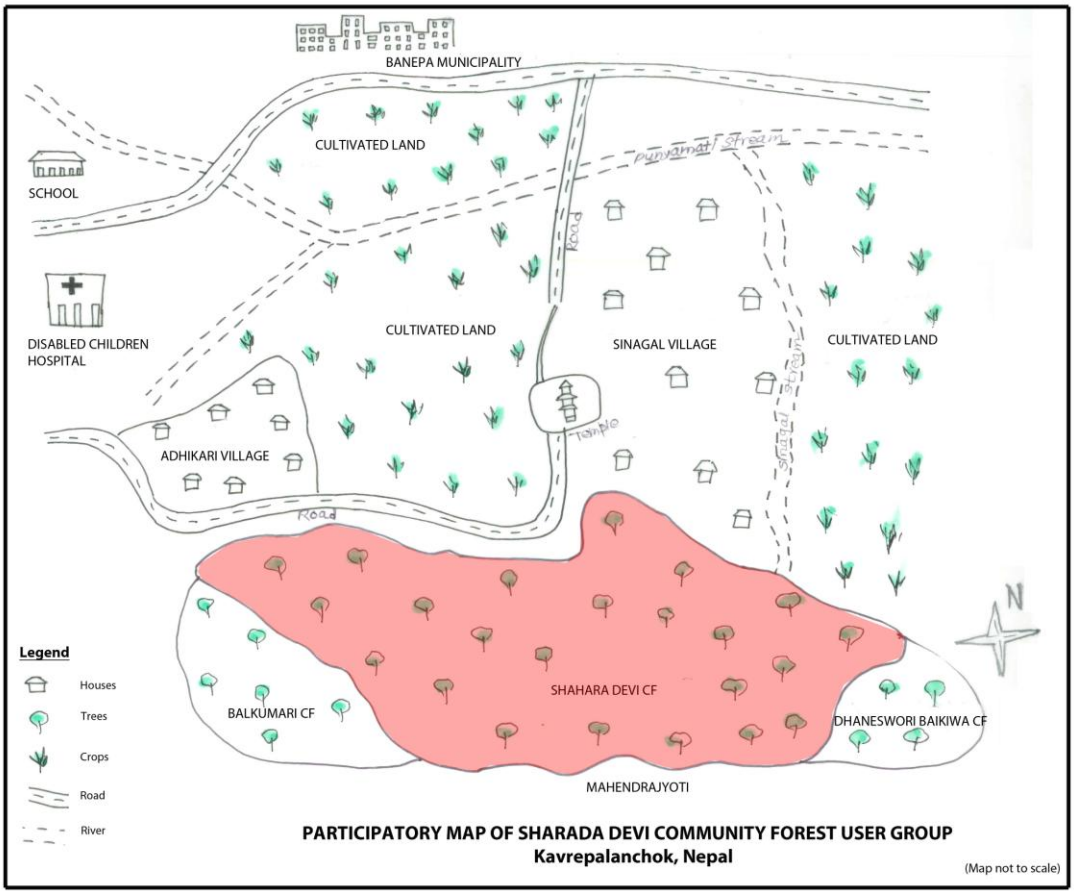
Case Study One- Sharada Devi Community Forest User Group (CFUG)

5.1 Background

The Sharada Devi Community Forest User Group (CFUG) is situated in Ugratara-Janagal Village Development Committee (VDC), ward no. 6 in the Middle Hill region of the district of Kavrepalanchok. It lies about 25 km east of Kathmandu and 2 km south of Banepa municipality, a commercial town of Kavrepalanchok district. The Sharada Devi Community Forest is located between Sinagal village in the east, Nagidanda and Dhaneswori Community forest in the west, Balyangroko Gahiro village in the north, and the Salleni and Baikiwa forests to the south. Compared to the other two case study sites, Sharada Devi CFUG is located closer to the district centre and is relatively accessible to the market. Of the three case studies, the Sharada Devi CFUG was least affected by the armed conflict.

The majority of the households in Sharada Devi belong to the middle-income group (54%) with 26 % and 20 % in the upper-income and low-income groups respectively. The per capita community forest area is about 0.20 hectare, which is lower than any other case study. The household dependency on forest for fuel-wood is 69%, which is lower than the other two sites. Besides fuel-wood, CFUG members in Sharada Devi use LPG gas, bio-gas and sawdust as sources of household energy, mainly for cooking. Most of the land in Sharada Devi CFUG is productive. Farming (including agriculture, animal husbandry and poultry) provides 38.59% of total household income. The dependence of households on the community forest in Sharada Devi CFUG is low compared to the other two study sites. The CFUG members use the community forest only for fuel-wood and leaf-litter.

Map 5.1: Participatory Map of Sharada Devi CF



Source: Map prepared by author with the help of CFUG Members, 2008

The Sharada Devi community forest is situated at an altitude of 1,500 meters above sea level, with a total area of 44.25 hectares. It is located above the settlement and mainly composed of broadleaf species, especially *Schima-Castanopsis* (Katus-Chilaune) forest type, which is a common forest type in the Middle hills of Nepal.

Table 5.1: Bio-physical Characteristics of Sharada Devi CF at Chaubas

Description	Number
Total area of forest (ha.)	44.25
Forest blocks	5
Aspect	North-east
Slope (degrees)	20 – 40
Canopy coverage (%)	60
Age of forest (years)	25 years
Average altitude (meters) above sea level	1500
Major forest species	*Castanopsis indica (Roxb.), Schima wallichii, Myrica esculenta, Myrsine semiserrata wall, Pinus spp.*

Source: (Sharada Devi CFUG 2008)

5. 2 Socio-economic Profile of the Sharada Devi CFUG

There are six hamlets under the Sharada Devi CFUG, i.e. *Karnitar, Gautam-Dahal basti, Thapa-Baniya basti, Banjara-Khadka basti, Nagi-Nayabasti* and *Dokhadol,* with a total of 170 households and total population of 880. Of the total population, 88% of residents belong to the so-called higher caste (*Bramhan/chhetri*), 11% to ethnic minority groups, and 1 are in the lower occupation castes.

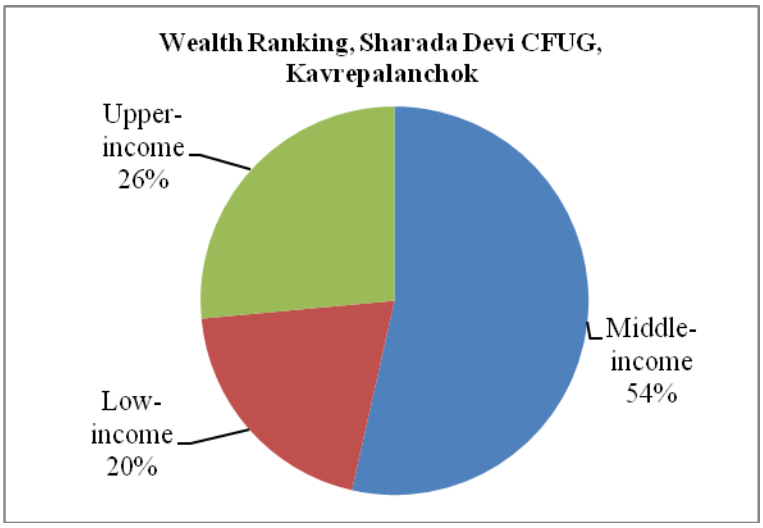
Table 5.2: Major Caste and Population Characteristics at Sharada Devi CFUG

Description	**Number**	**%**
Number of *tole* (hamlets) under the CFUG	6	-
Total population	880	
Men	*421*	*47.8*
Women	*459*	*52.2*
Literacy (%)		
Men	-	84.6
Women	-	52.5
Caste composition (no. of households)		
Higher-caste		
Brahman/ Chhetri	150	88
Ethnic minority groups	-	-
Bhujel	5	3
Giri	4	2
Newar	6	4
Gurung	1	1
Magar	2	1
Occupational caste	-	-
Kami	*2*	1

Source: (Sharada Devi CFUG 2008)

A participatory wealth ranking exercise was carried out to assess the socio-economic status of households within the Sharada Devi CFUG. The households were categorized into three major income groups: low-income, middle-income and upper-income households[67]. The wealth ranking indicates that more than half of the total households fall under the middle-income group and 20% and 26% of the households belong to low-income and upper-income groups respectively.

Figure 5.1: Wealth Ranking of Sharad Devi CFUG



Source: Fieldwork by author, 2008

5. 2.1. Land Holding

The household survey indicates that land is a very scarce commodity in Sharada Devi CFUG. The average total land holding is 7.11 *ropani* (0.35 ha) per household, which differs significantly among socio-economic groups. The upper-income households have fertile irrigated land with relatively larger plots of *kharbari* (private land especially allocated for growing grass and trees), while low and middle-income household *kharbari* holdings are negligible, and their dependency on community forest higher than upper-income households.

[67] Refer to Chapter One for the criteria used in the participatory wealth ranking.

Table 5.3: Mean Land Holding per Household in Sharada Devi CFUG (all income categories)

Category of land	Mean land holding (*ropani*)[68]	Mean land holding by income category (*ropani*)		
		Low-income	Middle-income	Upper-income
Irrigated land (*Khet*)	2.1	0.4	2.5	3.3
Non-irrigated land	0.3	0.3	0.1	0.4
Bari(upland)	4.5	4.8	3.9	4.9
Kharbari[69]	0.3	0.1	0.1	0.6
Share farmed	0.0	0.1	-	-
Total	7.1	5.6	6.5	9.3

Source: Field survey by author, 2008

5.2.2. Basic Household Characteristics

The household survey in Sharada Devi CFUG shows that household income in the sample is related to the household size, age of household head, and level of literacy. The data also indicate that as household income increases, the dependency on the forest for fuel wood decreases (Table 5.4).

[68] 1 *ropani* is approximately 500 square meters or .05 hectare.
[69] *Kharbari* is private land designated especially for growing grass (including thatching grass) and trees to supplement the household's needs for fodder, fuel-wood and timber.

Table 5.4: Household Characteristics by Income Category in Sharada Devi CFUG (mean values from sample

Household characteristics (mean values from sample)	Low-income	Middle-income	Upper-income
Number of households	34.0	91.0	45.0
Household size (no. of members)	4.9	5.9	7.4
Mean annual household income(NRS)	63,897.0	131,515.0	260,331.0
Annual household income (US$)[70]	863.0	1,777.0	3,518.0
Age of household head (yrs)	51.6	55.3	57.1
Education of household head			
Overall literacy rate (%)	60.0	73.3	80.0
Primary education only (%)	46.7	33.3	40.0
Higher secondary education (%)	6.7	13.3	26.7
College/University (%)	6.7	26.7	13.3
Livestock holding(no.)			
Buffalo	0.6	1.2	0.6
Cow	0.7	1.1	1.5
Ox	-	0.1	0.1
Goat/Sheep	2.1	3.3	4.3
Pig	-	0.2	-
Chicken	0.3	-	54.0
Household with:			
Electricity (%)	93.3	100.0	100.0
Piped water (%)	60.0	93.3	93.3
Telephone (%)	60.0	93.3	93.3
Audiovisual appliance(s) owned (%)			
Radio	20.0	100.0	100.0
Television	66.7	100.0	100.0
Source of household energy (%)			
Fuel-wood	93.3	66.7	46.7
LPG Gas	6.7	33.3	53.3

Source: Author, Field survey, 2008

5.3. Historical Background of Sharada Devi Community Forest

According to oral history, the present area occupied by Sharada Devi CFUG was once a very dense forest with plenty of big trees and abundant wild life. This fact is also supported by the age-old tradition of acquiring the "*lingo*"[71] for religious rituals of *Chandeswori Mai* (the goddess Durga) temple in Banepa. For this particular ritual, every year a healthy, tall mature tree has to be erected in front of the temple. For this ceremony, the tree tended to be acquired from Sharada Devi forest since there were plenty of such trees available. Due to population growth and expansion of agricultural land, the forest area was declining for

[70] 1 US$ is equivalent to Nepali Rupees (NRS) 74

[71] '*Lingo"* refers to a ceremonial pole, a thick, shorn tree-trunk some eighty feet in length erected during special religious rituals in front of the temple.

many decades; however, after the enactment of the 1957 Private Forest Nationalization Act the deforestation process was rapid due to loss of local ownership and breakdown of the traditional system of forest management.

Previous studies show that there were many forests under the indigenous system of management in Kavrepalanchok and Sindhupalchok districts. Fisher et al. (1989) reported that although there were no formal committees in the villages before the 1970s, the system of indigenous forest management remained in place. Many researchers (Gilmour 1989, 4-9; Fisher 1991, 2-4; Fisher et al. 1990) observed various indigenous forest management systems in the Kavrepalanchok district. For example, indigenous systems were found in Sikher Ambote Panchayat, Daraune Pokhari, Pandey Ban, Nala-ko-thulo-Ban, Ugrachandi, and Hokse Bazzar, where local villagers have devised various rules of forest management according to forest condition and locality. In Daraune Pokhari of Kavrepalanchok district, seven forests were found under local management, where the focus was more on conservation due to the fact that the forests had been heavily deforested 20 years before (Gilmour 1989, 7-9). The villagers were allowed to collect fallen dead wood, grass and leaf-litter from the forest. One forest was exclusively managed for the purpose of fuel-wood required for cremation. These studies revealed that people had reacted to the dwindling forest resources through their own local forest management system. Some forests, like *Jogeswor Mahadev Mandir*, had been managed as a religious forest under the traditional indigenous system (Fisher et al. 1990, 46). Such forests were managed exclusively to be used for religious ceremonies. However, people were allowed to collect dry wood and leaves occasionally at certain times of the year. There were restrictions on cutting green trees, and those who breached the rules were fined, and the materials used for cutting were confiscated. Under the indigenous local system of forest management, every household contributed grains to the local *chaukidar* (forest watchmen), also known as the *manapathi* system. The villagers themselves had prepared norms of forest use, management and sanctions for breach of the local rules. Fisher et al. (1988) also noted that is some cases, informal committees existed, which met on an ad hoc basis as needed. According to Fisher et al. (1988, 24) after the end of Rana regime in 1950, the externally imposed *talukdari* system collapsed and it

was substituted by local systems initiated by the people themselves, which gained further impetus after the failure of Private Forest Nationalisation Act.

According to CFUG members in Sinagal, the Sharada Devi forest remained under the traditional system of management during the Rana regime. The forests were under the control of *Mukhiya* and *Talukdar* (local headman appointed by the state), who were responsible for distributing forest products to the local people for their subsistence use, which collapsed after the fall of Rana regime. When the *talukdari* system collapsed and the forests were nationalized in 1957, villagers in Sinagal experienced acute deforestation mainly due to lack of a local control mechanism.

After the forest came under state control, village elites benefited greatly, because they were able to exploit the forest resources without penalties due to their comfortable relationship with district forest staff. On the other hand, legal access to the forest was limited for the general population. Nevertheless, the livelihoods of ordinary people remained dependent on forest resources, and local users continued to harvest forest products, albeit cautiously since they had to avoid the forest guards. Many villagers stated that during this time, the village elites tended to report people who collected the forest products to the District Forest Office (DFO). Thus, the majority of the villagers had to face various forms of penalty and punishment. Moreover, forestry officials took undue advantage of those people who were charged with stealing products from the forest. Under the nationalization regime, although the forest was officially under state control, lack of infrastructure, manpower and logistics handicapped the forestry department's ability to monitor, administer and regulate the collection of forest products. The forest became a truly open access resource, resulting in dramatic degradation[72]. Conversion of the Sharada Devi forest to degraded shrubland was also due to increased pressure from the surrounding villages. During that time the villagers from Banepa, Thapagaon, Budol, Sinagal, Bansdol, and Mahendra jyoti were responsible for uncontrolled and illegal harvesting, and encroachment of forestland. Influential elites took this opportunity to appropriate degraded forest

[72] The National Forest Inventory indicates that the forest declined drastically from 6.4 million hectares (45%) in 1964 to about 4.1 million hectares in 1975, a drop of over one-third in just a decade[72] (Wallace 1983, 221).

land and convert it to agricultural land. According to the villagers, forest products collection practices at that time were guided by narrow self- interest rather than the interest of the collective good because there was no guarantee that the villagers could be assured of ongoing use of the forest products in a sustainable manner. Thus, there was unregulated competition over the harvesting of forest products that eventually led to deforestation.

Respondents in Sharada Devi claimed that they had attempted to protect the forest under local management, but were largely unsuccessful, mainly due to the pressure from adjoining villages, as they did not have legal rights to regulate conditions of access. People from surrounding villages continued exploiting the forests by collecting the remaining stump and roots of the cut trees as there were no other alternative sources of household energy available for cooking and heating. During interviews, villagers reported that when the forest was completely denuded even the rabbits in the forest could be spotted from a distance, which expresses the extreme state of degradation of the forest.

The Department of Forest (DoF) attempted to protect the Sharada Devi forest by fencing the forests and also by recruiting forest guards to enforce the regulations. However, the forest department's efforts were unsuccessful, mainly due to the non-cooperation of the villagers. With the degradation of forest, the local population of Sharada Devi suffered greatly as they did not have enough forest products to support their basic needs. During those days villagers had to spend 5-6 hours to collect a head load of leaf-litter and fuel-wood. Households with more family members tended to collect more forest products and vice-versa due to competition, as there were no local rules and regulations in place. One respondent stated that "before 1990, hundreds of people harvest forest products in Sharada Devi from morning to the late evening and collected whatever was available in the forest – saplings, shrubs, tree or even the roots".

When villagers in Sinagal experienced this severe shortage of forest products, as a response to the changing situation they decided to revive the indigenous forest management systems. In 1990, through the village assembly, they formulated an informal forest conservation committee and decided to act to conserve the

remaining forest. To stop the indiscriminate harvesting and encroachment from neighbouring villages, they hired a local *ban heralu* (forest watchman) and pooled their own resources to pay for the salary through a grain levy collected from every household. Each household took turns to patrol the forest – a practice known as *lauri palo.* Their efforts coincided with the expansion of the Nepal Australia Forest Project (NAFP) in Kavrepalanchok District. In 1989, a plantation programme was carried out in Sinagal village through the NAFP with the involvement of local people. The local people in Sinagal were actively involved in the protection of the newly established plantation.

5.4. Community-based Forest Governance (CBFG) Arrangements in Sharada Devi CFUG

Although Sharada Devi community members were protecting the forests informally, villagers had no officially-recognized authority over the forest-resources. The absence of legal rights over the forest impeded the community's ability to formulate and implement the forest management activities. Since the community was very keen to take over management responsibility for the forest, the 1993 Forest Act created a favourable legal environment to constitute a Forest User Group (FUG)[73]. On September 2, 1993, villagers in Sinagal convened a meeting and formed a forest protection committee. They took the initiative of forest protection upon themselves, although not yet formally approved by the government. Ultimately the enactment of the 1993 Forest Act and the 1995 Forest Regulations was instrumental in officially transferring the authority over forest management to the Sharada Devi user group.

The Sharada Devi CFUG prepared its constitution and operational plan (OP) through the meeting of its general assembly (GA). The CFUG constitution and OP contain the local rules of CF governance, which is a mandatory legal document required for handing over national forest to CFUGs. After review of the constitution and OP, the document was signed by the CFUG Chairman and the District Forest Officer on behalf of the local community and the national

[73] According to the 1993 Forest Act and 1995 Forest Regulation, CFUG constitute users from the village or surrounding village or from next village and even from other districts, regardless of the political and administrative boundaries, based on customary use rights

government respectively. The handover of state owned forest to Sharada Devi CFUG took place on July 3, 1995. Following the handover of forest control, the 13 member Sharada Devi Community Forest User Committee (CFUG took over day-to-day operational activities of forest management based on its Operational Plan (OP). This detailed document describes the status of the forest, objectives, management plan, norms and rules concerning forest product use, monitoring mechanisms and penalties in case the rules are violated. The Operational plan (OP) is generally a five year plan of action on forest management that can be amended as required or after the expiry of the existing OP through the meeting of GA with approval from the DFO. The salient feature of the operational plan of Sharada Devi CFUG which was prepared in line with the Rule 28 (1) of the 1995 Forest Rules contains the following elements:

Table 5.5: Components of Sharada Devi CFUG Operational Plan

Components of Sharada Devi CFUG Operational Plan	
i.	Introduction of the Forest (name, boundaries, areas, historical background of the forest)
ii.	Objectives of forest management
iii.	Definition of terms
iv.	Review of previous OP
v.	Socio-economic condition of the CFUG and collaboration with other agencies
vi.	Status of forest products demand and supply, present condition of forest
vii.	Block division (name, boundaries, areas, aspects, slope, soil, main species, and status of the natural regeneration, block management method
viii.	Details of forest products utilization procedure, norms, distribution of benefits and sale of forest products
ix.	Penalties which may be inflicted on users pursuant to Section 29 of the Act and process of enforcement of penalty (refer Table 5).
x.	Method of forest protection (control of encroachment, control of illegal harvesting, grazing)
xi.	Procedures to be followed while harvesting timber (marking, stamp, billing)
xii.	Human resources development plan
xiii.	Election of CFUG Executive committee
xiv.	Resource mobilization and community development activities (management of CFUG funds, focused program for women and disadvantaged groups, community infrastructure development, forest management activities, income generating activities)
xv.	Income and expenditure of CFUG
xvi.	Ten year plan of forest management

Source: (Sharada Devi CFUG 2008)

The objective of the Sharada Devi CFUG, explicitly mentioned in the constitution, is to conserve, manage and utilize the forest and to become self-

sufficient in forest products. The CFUG intends to initiate forest-based income-generating activities to enhance the economic situation of its users. Environmental conservation and erosion control are also listed as primary objectives of the CFUG. According to the CFUG executive committee chairman, every member in the Sharada Devi CFUG has to pay NRs 120/- as an annual membership fee upon which the person is issued with a membership card. Migrants from another community have to apply to the CFUG committee to become a member of the CFUG. At present, every household within the Sharada Devi community has become a member of the CFUG and participates in the CFUG activities regularly.

5.4.1. Provisions Relating to Offence and Punishment

When the Sharada Devi Forest was handed over to the community, CFUG obtained authority over the conservation, management and use of forest. As the forest was completely degraded the CFUG General Assembly meeting made a decision to restrict access to the forest completely for two years, with an aim of promoting favourable conditions for better growth and regeneration of trees. During this period CFUG members used forest products from their *kharbari*, and those who had few or no private trees on their farmland used agricultural residues,[74] sawdust, and purchased fire-wood in the village from those who had surpluses. Although it produced minimal overt resistance from within the community, the restricted access to community forest was not a popular regulation among villagers. Initially, the CFUG continued to experience the problem of illegal harvesting of forest resources, especially from adjoining villagers. However with the cooperation and active participation of all CFUG members, the Sharada Devi CFUG was eventually able to control illegal harvesting. In order to protect the forest, the CFUG hired *ban heralu* (forest watchman) and all households participated in patrolling the forest in turn, to control illegal harvesting and encroachment.

[74] In rural Nepal, when there is a shortage of fire-wood, people use agricultural residues as a source of energy for household cooking and heating. Agricultural residues used for cooking were wheat straw, rice straw, corn stalks and khoya.

The CFUG operational plan (OP) incorporated a range of fines and penalties against those who violate CFUG rules. The CFUG has specified certain acts which are against the spirit of the community forestry principle, including illegal harvesting of forest products, non participation in CFUG activities, misuse of the CFUG funds, setting fire within the forest, grazing cattle inside the forest, encroachment of forest land, hunting, and any activities that increase erosion and landslides. In cases of violation of rules, various fines and penalties have been specified (see Table 5.6). According to the CFUG executive committee members, there were few cases of rule violations in the initial stage of community forestry intervention.

Table 5.6: Fines and Penalties for Violation of Rules at Sharada Devi CFUG

Type of damage	Fine in Nepali Rupees			
	First time	Second Time	Third time	Fourth time
Stealing firewood	100/-	200/-	500/-	Expelled from the membership of CFUG & loss of access to the community forest
Stealing fodder, leaf litter	50/-	100/-	150/-	- as above -
Stealing poles and pegs	500/-	1,000/-	2,500/-	- as above-
Cutting trees or stealing timber	The offender will be fined up to NRs 3,000/- and if the offence is repeated the person will be expelled from CFUG membership and forwarded for legal action to DFO.			
Grazing:				
Goats	20/-	30/-	50/-	
Cattle	50/-	75/-	150/-	
Setting fire	Any person who lights a fire in the forest will be fined based on the valuation of the damage and the person has to reforest the land destroyed by fire. Moreover, the person will be handed over to DFO for legal action as per existing forest laws.			
Encroachment of forest	The encroacher will be fined based on the evaluation of the damage to forest. Also, the person is fined NRs 5,000/- to 10,000/, and will be handed over to DFO for further legal action.			
Absent in General Assembly Meeting	If any member of the CFUG is absent in the meeting of General Assembly without any valid reason, he/she will be restricted in their use of forest products for a particular period of time			

Source: (Sharada Devi CFUG 2008)

Those who violated the CFUG rules were punished by the decision of the CFUG general assembly, and publicly scolded during the general assembly meeting. The positive aspect of the CFUG as reported by the villagers is that community members now have a sense of ownership over the forest. Sharada Devi CFUG has permanently hired a forest watchman on a paid basis for regular patrolling. All members of the CFUG are also actively involved in monitoring the forest, and report wrongful activities to the committee. Because of this legally

recognized public monitoring, it is extremely difficult for outsiders to violate the rules and harvest the forest products illegally.

The meeting of the CFUG executive committee takes place every month, during which the situation of the forest is assessed and any issue raised by a member is discussed and appropriate decision taken. According to the CFUG committee members, at present the Sharada Devi CFUG is not confronted with any cases of illegal harvesting and encroachment of forest.

5.5. Community-based Forest Governance Outcomes at Sharada Devi CFUG

In the following section, I examine the three major outcomes associated with the community forestry intervention, i.e. community-based forest governance, livelihood security, and environmental sustainability. I will then report how community-based forest governance was functioning pre/early during the emergence of armed conflict, and how the prolonged armed conflict affected these newly established community-based forest governance mechanisms.

5.5.1. Participation in Community Forest Governance in Sharada Devi CFUG

It has been argued that community-based forest governance is a mechanism that opens new horizons and new spaces for local communities to exercise control over their resources, ideally ensuring transparency and accountability through a horizontal decision making process (Baltodano 2008, 9). The most important factors in any decision making process are the mechanism and processes via which policy decisions are made. Local participation allows for the incorporation of the preferences and viewpoints of the public and therefore leads to a more dynamic policy shaping process (Dietz and Stern 2008, 12). Fairness and appropriateness are also important factors in any kind of decision making process (Kahn 2005, 147). By involving the public in local level natural resource management initiatives, competing stakeholders are able to express their concerns and shape the outcome of the decision. In earlier days, public participation was sought after most of the decisions had already been made by

government and the local stakeholders had little or no role in the process (Kahn 2005, 148). However, after the emergence of participatory community-based approaches, local communities are increasingly involved in the decision making process, management and governance of natural resources. Proponent of decentralized forest governance argue that decentralized community-based forest governance allows greater participation of local communities in the forest management decision making process and therefore results in an increase in accountability of the state forest agencies in resource management (Anderson 2000, 20).

5.5.2. Election of Executive Committee and Processes of Decision-making in the Sharada Devi CFUG

The formation of the CFUG executive committee and mechanism and process of decision making are important aspects in the Nepalese community forest management regime. As the executive committee has a major role in facilitating and influencing the decision of the general assembly and the implementation of decisions, it is important to know how the committee is formed and the true nature of its representation. In Sharada Devi the election of the CFUG executive committee is done through the meeting of the GA. The CFUG executive committee consists of 13 members, including the Chairman, Vice-chairman, Secretary, Joint-secretary, Treasurer, and 8 members. The term of the committee is fixed for four years; however, the committee can be dissolved and reconstituted through a meeting of GA as and when necessary. According to the Sharada Devi Operational Plan, it is mandatory for every CFUG member to participate in the General Assembly meeting. If any members cannot attend the meeting, he/she must provide prior notice to the executive committee with valid reasons. If a CFUG member violates this rule the person is restricted from accessing forest products for one occasion (Sharada Devi CFUG 2008, 38). The strict rules set by the CFUG have helped to make the GA meetings more participatory, democratic and transparent. When the annual GA meeting is convened, the committee Chairman presents the progress report, income and expenditure report and an annual plan for the coming year, which is endorsed by the GA meeting after due discussion. Every four years, the existing committee is dissolved for the election of a new executive committee. Until now the Sharada

Devi CFUG Chairman has been elected by consensus. If there were more than one candidate for the position, there would be an election. Once the CFUG Chairman in elected, other officials for the committee are nominated and elected (if there were more than the required number of candidates) by the GA meeting. There are 6 hamlets within the Sharada Devi CFUG, thus CFUG has adopted a policy to nominate at least one member from each hamlet to make the CFUG committee more representative in terms of geographical coverage. To date there has been no competition for the nomination of candidates in the executive committee. Reportedly, most people were reluctant to serve on the committee since it is a volunteer position, without any form of salary and benefit. In many instances, the General Assembly meeting has to force the CFUG members to serve on the committee.

Members of the executive committee have given several reasons why people are not interested to serve on the CFUG committee. Firstly, people who are elected to the executive committee must allocate a significant amount of time for CFUG activities, which restricts their involvement in other income generating activities. Secondly, as a responsible committee member, they must make decisions and implement various policies and programs for the sustainable management of the community forest, which may not always be popular among all CFUG members. Thirdly, people who are required to take on management positions within the CFUG, such as Chairman, Vice-chairman, Secretary, Joint-secretary or Treasurer require some leadership qualities, and social recognition as well as a sufficient educational background to undertake the job responsibly. This generally restricts people from lower socio-economic strata from serving on the upper management of the CFUG. Finally, the scale of economic activity of the CFUG has been found to be one of the factors attracting people to serving on the committee. Until now, Sharada Devi CFUG has not generated much income, which may be one of the reasons that people are reluctant to become serving members.

5.5.2.1. Representation of CFUG Members in the Decision Making Process

The devolution of authority over forest management to local communities does not automatically empower women, poor and disadvantaged groups in the

community-based forest management model (Potter 2008, 39). It is important to consider how these groups are represented on the CFUG committee, which is the main forum for making and enforcing rules and devising forest management and community development activities. It is equally important to examine the type of positions reserved for women, poor and disadvantaged groups. Sharada Devi data show that from 1993 to 2007, mean representation of upper-income, middle- income and low-income groups was 27%, 61% and 12% respectively (see Table 5.7). Relative to a population profile of 24% (upper- income), 56% (middle-income) and 20% (low-income), these statistics clearly show that representation in the CFUG committee is disproportionately skewed toward representatives from middle-income and upper-income groups, whereas the representation of people from lower-economic strata was almost nil. In addition, the statistics show that some influential persons in the community – all from the upper-income group – had occupied the important portfolio of the CFUG executive committee many times. For example, BP (upper-income) occupied the post of CFUG Chairman seven times, and GKB (middle-income) three times. Similarly, KK (upper-income) occupied the position of Chairman three times, Vice-Chairman two times and Treasurer five times. Likewise IS (middle-income) occupied the position of Vice- Chairman four times and Secretary five times and IB (middle-income) occupied the post of Secretary four times. Out of 12 CFUG Committees constituted between 1993 and 2004, there was only one woman elected as Joint-Secretary.

Overall the data show that positions on the CFUG executive committee have been mostly dominated by a few members of the elite, holding executive positions in turn, which indicates that the voices of the poor and women would not have been adequately represented in the decision making processes of the CFUG.

Table 5.7: Representation in CFUG Executive Committee by Gender, Class and Caste

		Gender		Income categories			Caste		
	Total members	Men (%)	Women (%)	Upper-income (%)	Middle-income (%)	Lower-income (%)	Higher Caste (%)	Lower caste (%)	Ethnic group (%)
Sep 2, 1993 to Mar 24, 1994	13	100	0	23	54	23	92	-	8
Mar 25, 1994 to Mar 14, 1995	13	85	15	8	69	23	100	-	-
Mar 15, 1995 to Aug 16, 1996	13	85	15	38	46	15	100	-	-
Aug 17, 1996 to May 13, 1997	13	100	0	15	54	31	100	-	-
May 14, 1997 to Aug 16, 1998	13	62	38	15	62	23	100	-	-
Aug 17, 1996 to July 16, 1999	13	77	23	31	62	8	100	-	-
July 17, 1999 to July 15, 2000	13	100	0	23	69	8	100	-	-
July 16, 2000 to Aug 16, 2001	13	77	23	23	69	8	100	-	-
Aug 17, 2001 to Aug 16, 2002	13	69	31	31	69	0	100	-	-
Aug 17, 2002 to Aug 17, 2003	13	69	31	23	69	8	100	-	-
Aug 18, 2003 to July 15, 2004	13	69	31	46	54	0	100	-	-
July 16, 2004 to Aug 17, 2007	13	69	31	46	54	0	100	-	-
Total	156	80	20	27	61	12	99	0	1

Source: Compiled from Sharada Devi CFUG records[75]

During interviews, women repeated the message that they have more concern about community forests than do men, and that women's involvement in community forest management activities is always more than men's, even though CFUG membership is given to the (male) household head. Data collected from CFUG records also show that women's representation in CFUG executive committee is minimal. From 1993 to 2007, the average representation of women in CFUG committees was only 20%. In later years, some policy reforms have been introduced to include a higher proportion of the poor, women and other disadvantaged members in the CFUG committee. However, the above data show that the representation of low-income groups has been declining since 1999, which indicates that they are not interested in serving on the committee; possibly due to time constraints and involvement in other income generating activities, or

[75] The Sharada Devi CFUG Constitution had made a provision that the term of CFUG Executive Committee shall be for the period of four years. However, due to many reasons like resignation, inability to serve in the committee, death, unsatisfactory work the CFUG executive have been reconstituted almost annually.

due to elite domination, or because they do not consider that involvement in CFUG executive committees is useful for them.

When women's representation is further disaggregated among income categories, it shows that from 1993 to 2007, the representation of women from upper, middle and low-income groups is 2%, 16% and 2% respectively. This indicates that 80% of the female representation comes from women from the middle-income category, while representation of women from upper-and low-income groups is only 10% per group. These data indicate that households from middle-income categories are participating and benefitting more from community forests than people from other income groups.

Table 5.8: Representation in the Sharada Devi CFUG Executive Committee by Gender and Income Category

Duration	Upper-income		Middle-income		Low-income	
	Women (%)	Men (%)	Women (%)	Men (%)	Women (%)	Men (%)
Sep 2, 1993 to Mar 24, 1994	-	23	-	54	-	23
Mar 25, 1994 to Mar 14, 1995	-	8	15	54	-	23
Mar 15, 1995 to Aug 16, 1996	-	38	8	38	8	8
Aug 17, 1996 to May 13, 1997	-	15	-	54	-	31
May 14, 1997 to Aug 16, 1998	-	15	23	38	15	8
Aug 17, 1996 to July 16, 1999	8	23	15	46	-	8
July 17, 1999 to July 15, 2000	-	23	-	69	-	8
July 16, 2000 to Aug 16, 2001	-	23	23	46	-	8
Aug 17, 2001 to Aug 16, 2002	-	31	31	38	-	0
Aug 17, 2002 to Aug 17, 2003	-	23	31	38	-	8
Aug 18, 2003 to July 15, 2004	-	46	23	31	-	-
July 16, 2004 to Aug 17, 2007	8	38	23	31	-	-
Mean %	2	25	16	45	2	10

Source: Compiled from Sharada Devi CFUG record

Similarly, women's participation in the General Assembly (GA) meetings is much lower (9%) when compared with their male counterparts. However, it was found that women are active and participate more than men in community forest management activities.

Table 5.9: Participation in CFUG Annual General Assembly Meetings

Year	Total participants	Women		Men	
		Number	%	Number	%
1994	44	-	-	44	100
1995	72	13	18	59	82
1996	92	9	10	83	90
1997	103	5	5	98	95
1998	96	10	10	86	90
1999	105	4	4	101	96
2000	107	10	9	97	91
2001	138	11	8	127	92
2002	141	11	8	130	92
2003	103	13	13	90	87
2004	153	15	10	138	90
2005	176	18	10	158	90
2006	156	19	12	137	88
Total	1486	138	9	1348	91

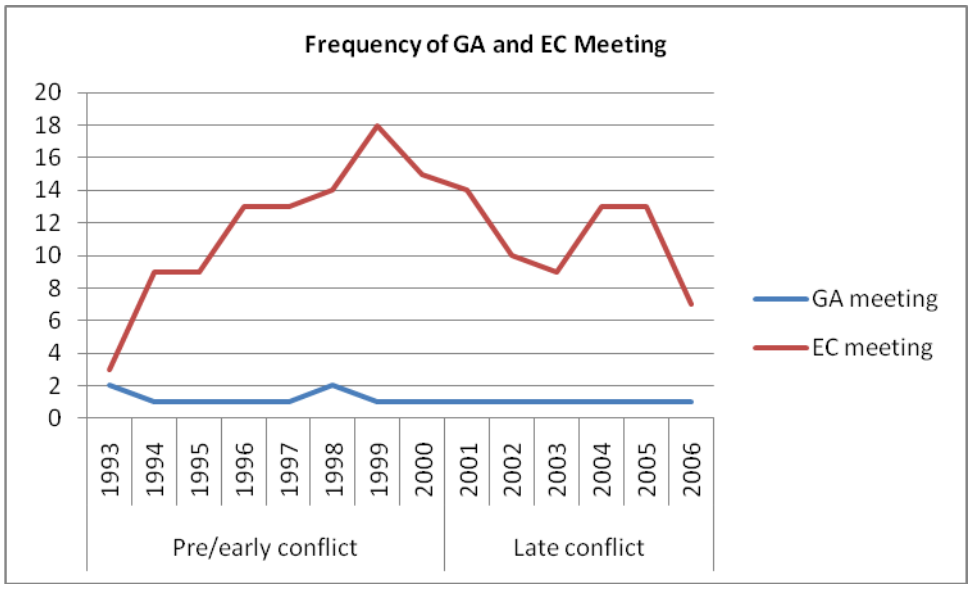
Source: Compiled from Sharada Devi CFUG records

Inadequate participation of women in the GA meetings can be attributed to many factors (primarily cultural) and to CF policy. According to CF policy, only one member from each household, generally the household-head, becomes the official member on the CFUG; however, women can participate voluntarily in the GA meeting. In recent years, especially after 2001, the representation of women on the CFUG executive committee has increased (see Table 5.8). Various factors may have played a role in increasing the representation of women on the executive committee, including pressure from the Maoists for social and economic transformation, and second generation issues in CF highlighted by researchers, leading to policy shifts from the government as well as by donor agencies.

5.5.2.2. Frequency of CFUG General Assembly (GA) and Executive Committee (EC) Meetings

The GA is the apex body of the CFUG, and has the mandate to approve rules of forest governance, an annual plan, and assessment of past activities. It also determines an appropriate benefit sharing mechanism. The GA meeting also elects the executive committee, which is responsible for devising and implementing the decisions made by the GA. The GA convenes once a year while the Executive Committee meets once a month. However, both committees can be convened according to necessity as well. The regularity and frequency of these meetings is an indicator of how active and functional CFUG governance has been. Data compiled during fieldwork indicate that the GA meetings were conducted regularly from 1993 to 2006 (see Figure 5.2).

Figure 5.2: Frequency of General Assembly and Executive Committee Meetings at Sharada Devi CFUG



Source: Compiled from Sharada Devi CFUG record

However, there were difficulties organizing a GA meeting between 2000 and 2005. During the intense period of armed conflict, the Kavrepalanchok District Administration Office (DAO) issued a circular to obtain permission from DAO in advance before conducting any mass meeting of CFUG, and also to provide written information on planned meetings to nearby local security forces. Despite

these difficulties the Sharada Devi CFUG was able to conduct their General Assembly meetings regularly, with some delays of a few weeks.

5.5.3. Equity, Access and Benefit Sharing Mechanisms in Sharada Devi CFUG

It has been argued that decentralization of authority of resource governance to local people will lead to a greater level of local participation, which will ensure sustainable and equitable natural resource use (Meynen and Doornbos 2004, 235-36). Although there are different perspectives on the roles of property rights regimes and institutional arrangements, there is a consensus among social scientists that institutions play a pivotal role in managing people's interactions with surrounding common-pool natural resources (Meynen and Doornbos 2004, 235-237). Common property institutions like CFUG, and the operational rules they devise, dictate the resource use and benefit sharing patterns of local users. When the Sharada Devi forest came under community control, the GA meeting of the CFUG made a decision to restrict access to forest completely for two years, to enable regeneration. In 1996, during the third year of protection, the community forest was opened for use by CFUG members. However, access to the community forest was made on a limited basis, with members only allowed to collect leaf-litter to reduce the risk of forest fire. During the initial two years of complete protection, households in the community fulfilled their fuel-wood needs from the *kharbari* (private land allocated for growing grass and trees) and those who did not have access to forests products in their private land purchased from others. Since 1998 thinning operations have been carried out on a regular basis, and forest products generated from thinning practices (mainly fuel-wood) have been distributed to forest users, with every household receiving an equal amount of fuel-wood irrespective of family size and socio-economic status.

As a management strategy, Sharada Devi CFUG has divided the forest into five blocks[76]. The CF is opened three times a year to collect leaf-litter in the months of November, March and April. The CFUG Executive Committee decides on the exact date of collection and notifies its members. The forest is opened from 5am

[76] A forest block is a unit of forestland, whose size varies according to geographic condition, forest composition and management purposes.

until 5pm to collect leaf-litter. Only CFUG members can enter the forest to collect the leaf-litter. If any CFUG member wants to hire a worker – a non CFUG member – to assist them in collecting leaf-litter, the concerned household needs to obtain permission from the CFUG Executive Committee and paying the relevant fee. CFUG members are allowed to collect grass in the months of July and August after notification from the CFUG executive committee. Only one member from each household is allowed to enter the forest, and CFUG members do not have to pay any fee for the collection of grass. Similarly, from November to February the CF is opened every Saturday from 6am to 4pm for collection of dead wood and twigs. During this period CFUG members are also allowed to collect *Banmara*[77] (*Chromolaena odorata), and Ningalo (Drepanostachyum spp*), free of cost.

Every year CFUG members carry out thinning operations in December. Before undertaking the thinning, a notice is given to the District Forest Office (DFO) in advance, specifying the date and time of thinning. During the thinning operations, forest technicians from DFO may observe the thinning process and provide technical advice. The thinning operation is conducted under the close supervision of CFUG committee members, who have adopted a policy of hiring limited numbers of personnel to carry out the thinning operations, in order to avoid unscientific and unregulated cutting of trees. Previously, hired labourers from outside the village were used in thinning operations; however, after the realization that significant amounts of money had gone from village hiring workers outside of local community, the Sharada Devi CFUG decided to hire labour from the forest users group only. This practice has increased the employment opportunities and household incomes of poorer sections of the community. Thinning operations are performed according to the provisions made in the CFUG operational plan. Four major activities must be undertaken in thinning, i.e shrub management, singling, pruning, and thinning. Every year the CFUG executive committee estimates the quantity of forest products derived from thinning, based on field observations. The forest products generated from

[77] The *Banmara* (*Chromolaena odorata)* is an invasive species mainly used for animal bedding and turned to compost. This species spreads quickly by forming dense strands and prevents the establishment of other species. When it becomes dry it increases the risk of forest fire. Thus, the Sharada Devi Community forest has a policy to remove this invasive species periodically from the forest.

thinning operations are distributed equally among all CFUG members. A local measurement unit is used to distribute the fuel-wood[78]. The Sharada Devi CFUG has a policy that the forest products generated from thinning will not be sold outside the community unless and until community demand is satisfied. Currently, every household in the Sharada Devi CFUG pays NRs 300/- annually as a fee to acquire forest products from the CF.

The Sharada Devi CFUG has a policy to provide timber for the construction of houses. In order to get timber from the forest, the CFUG member has to submit an application to the CFUG executive committee. Once the application is received, the committee members inspect the house of the applicants to investigate the validity of the claim. Once the investigation is complete and provided that the demand for timber is valid, then the committee makes a decision to provide timber. At present, any CFUG member who wants to construct a new house receives one pine tree free of cost; with those belonging to poorer sections of the community being awarded two trees. In addition to this, poorer CFUG members also receive other forest products free of cost, and they do not have to pay the annual membership fee. The Sharada Devi CFUG has also adopted a policy of providing free timber to construct houses and animal sheds that have been destroyed by fire or other natural disasters. The Sharada Devi community forest is still young, so users are not yet in a position to derive commercial benefits from the forest. However, CFUG members have fulfilled their subsistence needs from forest products, including fuel-wood, leaf-litter, fodder and grass.

5.5.3.1. Forest Governance, Access and Distribution of Forest Products during late Conflict Periods

According to interviews with the CFUG Chairman, there was no noticeable impact on the governance mechanisms of Sharada Devi CFUG during the late conflict periods of the armed insurgency. The activities of the CFUG reportedly

[78] The local measurement unit used by the Sharada Devi CFUG for the distribution of fuel-wood is a *rope*. At the time of data collection, one household receives fuel-wood (branches and twigs) equivalent to 30 *haat* (12 meters), in circumference, which is equivalent to 17 *bhari* (head-load). One head-load of firewood generally weighs 40 kg.

ran smoothly throughout the conflict period. Further, he reported that there were no disturbances or pressure from either of the contending parties in the implementation of CFUG activities. The CFUG was able to continue forest management activities as stipulated in the operational plan. General assembly and executive committee meetings were convened regularly, although there were occasional delays. Since the Maoist guerillas used to take shelter inside the forest, the CFUG was obliged to get permission from the District Administration Office (DAO) and were required to give notice of any forest management activities to nearby security forces, in order to avoid accidental aerial bombardment and firing. There was never more than a few months' delay in carrying out management activities. Before the emergence of conflict, the Nepal Australia Community Resource Management and Livelihoods Project (NACRMLP) in collaboration with the District Forest Office (DFO) Kavrepalanchok provided various capacity building programs for CFUG members, including training and observation tours. After the escalation of violent conflict, the Nepal Australia Community Resource Management and Livelihoods Project **(**NACRMLP**)** terminated its assistance programme effective from 30 June 2006, which greatly affected the budget and programs of the DFO, Kavrepalanchok. There was also a decline in the development activities being carried out by other government agencies, although the savings and credit programme in the village continued to run smoothly. Saving and credit groups operating in Sharada Devi CFUG greatly increased the villagers' access to loans, even during the later conflict periods of the insurgency. Among these, several groups are explicitly run by women, also without any obstruction.

The villagers in Sharada Devi stated that they did not experience any significant negative impact on forest access and distribution of forest products during late conflict periods of the armed insurgency. Every year the Sharada Devi CFUG has been able to continue its thinning operations and distribution of forest products. The community forest continued to open 3 to 4 times a year, as per the annual plan of the CFUG. Access to the forest was as usual, and CFUG members were able to collect forest products without any interruption either from Maoist insurgents or from security forces. The data collected indicate that there was no reduction in the quantity of forest products collected during late conflict periods.

In fact the amount of fodder and leaf litter collected increased by roughly 3% during later periods of the conflict (see Table 5.10).

Table 5.10: Mean Annual Forest Product Collection/Household during Pre/Early and late conflict periods, Sharada Devi CFUG - All Categories *

Forest products	Pre/Early conflict	Late conflict periods	Change (%)
Timber (cu. ft)	-	-	-
Fuel wood (*Bhari*)	16.71	16.71	-
Fodder (*Bhari*)	8.29	8.55	+ 3.13
Grass (*Doko*)	2.22	2.22	-
Leaf litter (*Bhari*)	21.09	21.64	+ 2.60

Source: Fieldwork by author, 2008* 1 *bhari of* green fuel wood is approximately equivalent to 50 kg; 1 *bhari* of fodder or grass is equivalent to 25 kg; and 1 *doko* of leaf litter is equivalent to 20 kg.

The data were further analyzed to determine the access of different socio-economic groups to forest products during pre/early and late conflict periods. There was no noticeable difference in the amount of forest products collected between different income groups, and the amount of forest products collected increased slightly across all income groups (see Table 5.11.

Table 5.11: Mean Annual Forest Products Collection per Household during Pre/Early and Late Conflict Periods (all income categories), Sharada Devi CFUG

Income group	Fuel wood *(Bhari)*	Fodder *(Bhari)*	Grass *(Doko)*	Leaf litter *(Bhari)*
Low-income				
Pre/Early conflict	16.5	6.7	2.3	14.0
Late conflict	16.5	6.5	2.7	15.0
Change (%)	-	-3.0	+14.2	+7.1
Middle-income				
Pre/Early conflict	16.8	8.4	1.7	26.3
Late conflict	16.8	8.9	2.0	26.7
Change (%)	-	+5.6	+19.8	+1.5
Upper-income				
Pre/Early conflict	16.8	9.7	2.7	23.0
Late conflict	16.8	10.3	2.0	23.7
Change (%)	-	+5.6	-5.1	+2.9

Source: Fieldwork, 2008

5. 5.4. Income and Expenditure of Sharada Devi Community Forest User Group (CFUG)

The Sharada Devi CFUG does not have a secure source of income. To date, they have not sold any forest products outside the community because the forest in still young. The major source of income for the CFUG is through membership fees, donations and the sale of fuel-wood. Over the last decade, membership fees accounted for 36% of the total income of the CFUG, while 25% was derived from donations. The CFUG Chairperson reported that various national and international visitors come to this CFUG for observation tours and donate money during their visits. From 1997/98 to 2007/08, the Sharada Devi CFUG earned a total income of NRs. 561,691 (equal to US$ 7590).

Table 5.12: Income of Sharada Devi CFUG, Kavrepalanchok (1997/98 - 2007/08)

Source of Income	Amount(NRs)	% of total
Sale of timber	12,100	2.2
Sale of fuel wood	107,618	19.2
Sale of leaf-litter	30,079	5.4
Sale of sand	1,400	0.2
Membership fee	202,623	36.1
Household contribution	41,280	7.3
Donation	141,869	25.3
Prize	6,400	1.1
Fine	1,395	0.2
Interest	16,928	3.0
Total	561,691	100.0

Source: Compiled from CFUG records

5.5.4.1. CFUG Income during Pre/Early and late Conflict Periods

Sharada Devi CFUG records show that there was not a serious impact on CFUG income during the period of the conflict. Sales of forest products, which were relatively low throughout, were halved over the 1995/6 – 2000/1 and 2001/2 – 2006/7 periods, but this decline was compensated for by increased membership fees and international donor contributions.

Table 5.13: Income of Sharada Devi CFUG during Pre/early and late Conflict Periods

Source of Income	Pre/Early conflict (1995/96 - 2000/01)*		Late conflict periods (2001/02 - 2006/07)*	
	Amount (NRs)	%	Amount (NRs)	%
Sale of timber	-	-	12,100	2.3
Sale of fuel wood	65,720	12.6	33,898	6.5
Sale of leaf-litter	25,111	4.8	4,468	0.9
Sale of sand	1,400	0.3	-	-
Membership fees	73,669	14.1	108,554	20.7
Household contribution (salary of forest watchman)	41,280	7.9	-	-
Donations	54,693	10.4	79,176	15.1
Prizes	6,400	1.2	-	-
Fines	1,246	0.2	149	-
Interest	7,102	1.4	8,726	1.7
Total	276,621	52.8	247,070	47.2

Source: Compiled from Sharada Devi CFUG Record

Note: Violence in Nepal was intensified in the latter period of conflict especially after 2000/01. Respondents in all study communities indicated they did not experience serious effects until the later stage of the conflict, and in Sharada Devi this was least disruptive.

5.5.4.2. CFUG Expenditure and Community Development Activities of Sharada Devi CFUG

Since the inception of the Sharada Devi CFUG, various programs have been launched in the community. CFUG records indicate that most of the income (77%) of the Sharada Devi CFUG has been invested in forest conservation and management activities such as forest thinning, construction of forest roads and

establishing a "Farmer Forest Management School"[79] (see Table 5.14). Between 1995 and 2008, Sharada Devi CFUG constructed 3.66 km of forest roads, which have not only helped in minimizing the risk of forest fire but have also facilitated forest products transportation and linking of local villages to markets. About 10% of the total income has been invested in community development activities such as the construction of public toilets, community buildings, loans to CFUG members and training programs. CFUG committee members indicated in interviews that the limited amount of income of the CFUG restricted their ability to invest more in community development programs, although the Sharada Devi CFUG has initiated a number of community development projects (see Table 5.16).

[79] The Farmer Forest Management School (FFMS) was established primarily to address the identified needs of the community forest users in sustainable forest management practices. The FFMS aims to train facilitators including the forest users to develop and apply appropriate forest management practices in forest management and strengthen the forest users' capacity in community forest management through the knowledge and skills gained through the experimental learning techniques and participatory training methods. The FFMS was launched in Nepal in various CFUGs, including the Sharada Devi CF in early 2000 by the Regional Community Forestry Training Centre (RECOFTC) and the Forest, Trees and People Program (FTPP), in partnership with the Department of Forests (DoF), FAO and other donor assisted community forestry projects including the Nepal-Australia Community Resource Management Project (NACRMP), and the Federation of Community Forestry Users in Nepal (FECOFUN). The FFMS brings forestry technicians and forest users together to explore the appropriate methods of sustainable forest management to ensure maximizing the benefits to CFUGs without compromising conservation objectives (Singh, 2003).

Table 5.14: Expenditure of Sharada Devi CFUG (1995/96 to 2007/08)

Activities	Amount (NRs)	% of total
1. Forest Management[80]		
1.1 Salary of Forest Watchman	212,528	37.6
1.2 Forest management activities	184,036	32.6
1.3 Revision of Forest Operational Plan	1,611	0.3
1.4 Forest road construction	28,795	5.1
1.5 Farmer Forest School	10,426	1.8
Sub-total	*437,396*	*77.4*
2. Community development[81]		
2.1 Public toilet construction	20,520	3.6
2.2 Women's Empowerment Training	8,370	1.5
2.3 Motivation Class	5,847	1.0
2.4 Loans to CFUG members	11,500	2.0
2.5 Community building construction	10,000	1.8
Sub-total	*56,237*	*10.0*
3. Administrative costs[82]	71,744	12.7
Total	565,377	100.0

Source: Compiled from Sharada Devi CFUG Records

5.5.4.3. CFUG Activities during the Pre/Early and late Conflict Periods

The data on the expenditure of Sharada Devi CFUG have been analyzed to assess the trend of CFUG investment in different activities within the community. Data clearly show that of the total expenditure, 48% and 52% of the investment took place over the two five year periods roughly corresponding to the pre/early and late conflict periods (see Table 5.16). Surprisingly, investment in forest management activities was greater during the period of intense conflict as compared to the earlier period, although community development expenditure declined. It is important to note that data do not indicate any negative impact on the governance of community forest activities during the conflict. The success of the Sharada Devi CFUG in implementing planned activities even during the conflict period can be attributed to two factors according to local community sources. The first reason is that the local community did not take the side of

[80] Forest management activities include salary of forest watchman, costs for planting, thinning and pruning, *Chapan*, *Muchan*, shrub management, upgrading of the operational plan, transportation of logs etc, forest road construction and other activities related to forest management.

[81] Community development activities typically include community infrastructure development such as construction of public toilets, community building, rural road, drinking water schemes, and community empowerment activities such as loans to CFUG members, training and any other activities that aim to benefit the forest users.

[82] An administrative cost includes audit fees, taxes, purchase of stationary and meeting costs etc.

either of the contending parties, and thus, there was little pressure and interference in the forest managment activities from the conflicting parties, and the second facor is that the local governace mechanism of the CFUG was quite mature and stable.

Table 5.15: Expenditure of Sharada Devi CFUG

Activities	Pre/Early conflict (1995/96 – 2000/01)		Late conflict (2001/02 – 2006/07)	
1. Forest Management	Amount	% of total	Amount	% of total
1.1 Salary of Forest Watchman	82,380	15.6	100,070	19.0
1.2 Forest management activities	62,917	11.9	117,663	22.3
1.3 Revision of Forest Operational Plan	1,611	0.3	0	0.0
1.4 Forest road construction	9,121	1.7	16,374	3.1
1.5 Farmer Forest School	9,926	1.9	500	0.1
Sub-total	165,955	31.5		44.5
2. Community Development				
2.1 Public toilet construction	20,520	3.9	0	0.0
2.2 Women Empowerment Training	0	-	8,370	1.6
2.3 Motivation Class	5,847	1.1	0	0.0
2.4 Loan to CFUG members	11,500	2.2	0	0.0
2.5 Community building construction	10,000	1.9	0	0.0
Sub-total	47,867	9.1		1.6
3. Administrative Cost	37,361	7.1	33,161	6.3
Total Expenditure	251,183	47.6	276,138	52.4

Source: Compiled from Sharada Devi CFUG Record, 2008

5.6. Livelihoods Outcomes

In the following section, I will examine the different livelihood outcomes associated with community based forest governance in Sharada Devi CFUG, especially with respect to household income, community forest based employment opportunities and community development activities carried out by the CFUG during pre/early and later conflict periods.

5.6.1. Household Income of Sharada Devi CFUG

Common property resources (CPR) play a crucial role in the rural economy and the livelihoods of people, especially in low-income rural communities (Jodha 1990, A65; Shackleton et al. 2007, 573). Forests in the hills of Nepal contribute

directly to the farming system, as they provide essential inputs to agriculture and animal husbandry. Also, forests play a crucial role in ensuring livelihood security and the conservation of the local environment (Dev et al. 2003, 76; Beck and Nesmith 2001, 129; Dev and Adhikari 2007, 148).

Households in Sharada Devi CFUG pursue different livelihoods portfolios to diversify their sources of household income. Due to increasing population pressures and the declining size of land holdings, households in Sharada Devi are adopting new ways of farming combined with off-farm activities that are mainly oriented towards the market. Due to the area's proximity to the commercial business centre and industries, household members in Sharada Devi CFUG work in the government service, factories and business firms, and also rely on dairy and vegetable production as a major source of household income. The household survey reveals that out of the total household income among Sharada Devi CFUG respondents, 45%, 51% and 3% of household income is derived respectively from the combined agriculture and livestock sector, the service sector, and community forest. Within the agriculture and livestock sector, dairying (18%), cereal crops (11%) and vegetable farming (11%) are the three major sources of income. Vegetable farming, especially the cultivation of potatoes, cauliflower, cabbage and leafy vegetables, has become popular and is a significant source of household cash income among farmers. In recent years, farmers in Sharada Devi CFUG are also engaged in rearing an improved breed of buffalo, and substantial household cash income is derived through the sale of milk. Small animals like goats and poultry also supplement household income. Substantial additions to household income are contributed through off-farm wages (casual) and overseas employment. Within the service sector, salaries/waged work (permanent) (29%), self-employment (13%), and overseas employment (6%), are the three major sources of household income (see Table 5.17). Data taken during field work show that during pre/early periods of conflict, nine people from this community were engaged in salaries/waged work (permanent), and no person from the community was in overseas employment. However, during the period of conflict, the number of people engaged in salaries/waged work (permanent) increased from 9 to 13, and 23 people from Sharada Devi CFUG left for overseas employment. According to the villagers,

this migration can be explained by the limited employment opportunities available within the country, and also the political and social instability caused by the violent conflict. Data indicate that the contribution of overseas employment to household income is currently 5.5%, mainly among middle and upper-income households. Overseas employment does not contribute to the household income of poorer families because they cannot afford to invest the money required for agents' fees and the initial investment to obtain overseas employment. According to the local people in Sharada Devi, those aspiring to go overseas must pay at least NRs. 50,000/- and potentially hundreds of thousands of NRs in fees to employment agencies, depending on the countries where they seek work; which is beyond the reach of people from lower socio-economic strata. An assessment was done to determine the consumptive value of the forest products as a component of household income. Data suggest that the contribution of CF to household income in terms of direct consumptive value is 3.3%; however, the indirect contribution of the CF to the farming system and animal husbandry is much greater. Households in Sharada Devi have diversified their sources of income besides agriculture. It is important to note, however, that these new and emerging sources of income cannot replace the traditional forms of livelihood such as farming and animal husbandry that form the foundation of the livelihoods of the Sharada Devi population.

Table 5.16: Mean Annual Household Income in Sharada Devi CFUG (all income categories) by source of income

Source of income	Annual household income (NRs)	% of total income
Salaries/waged work (permanent)	43,756	28.8
Dairying	27,122	17.9
Self employment	19,244	12.7
Cereals crops	17,226	11.3
Vegetable farming	16,251	10.7
Overseas employment	8,356	5.5
Forests products	4,938	3.3
Small animal (goat/sheep)	4,911	3.2
On-farm wages (casual)	4,078	2.7
Poultry rearing	2,756	1.8
Off-farm wages (casual)	2,144	1.4
Pension	667	0.4
Fruit growing	467	0.3
Total	151,915	100.0

Source: Field survey by author, 2008

Household income among Different Income Groups

The pattern of household income in Sharada Devi CFUG shows little variation across the socio-economic groups. Salaries/waged work (permanent) and farming are the most prominent sources of household income for all income groups. Due to the proximity to the market, households from every income category were employed in business firms or factories which are the primary source of household income and source of living. Another finding of this study is that the direct contribution of CF to household income is inversely proportional to household income. Data show that, out of total household income, 6.7 % of income for low-income household comes from the CF in the form of forest products, while this is only 4% and 2% for middle and upper-income households respectively. In other words, the data indicate that the greater the household income, the lower the reliance on CF for livelihood support (see Table 5.17).

Table 5.17: Mean Household Income (NRs) in Sharadaevi CFUG by Income Category

Source of income	Low-income		Middle-income		Upper-income	
	Amount	*%*	*Amount*	*%*	*Amount*	*%*
1.Agriculture and livestock sector						
1.1 Cereal crops	8,780	13.7	18,313	13.9	24,583	9.4
1.2 Vegetable farming	10,187	15.9	12,967	9.9	25,600	9.8
1.3 Fruit growing	800	1.3	200	0.2	400	0.2
1.4 Dairying	10,800	16.9	35,033	26.6	35,533	13.7
1.5 Small animals (goat/sheep)	2,767	4.3	5,600	4.3	6,367	2.5
1.6 Poultry	267	0.4	-	-	8,000	3.0
Sub total	*33,600*	*52.6*	*72,113*	*54.8*	*100,483*	*38.6*
2.Service sector						
2.1 Salaries/waged work (permanent)	11,000	17.2	26,000	19.8	94,267	36.2
2.2 Overseas employment	-	-	6,400	4.9	18,667	7.2
2.3 Self employment	7,200	11.3	12,800	9.7	37,733	14.5
2.4 Pension	-	-	2,000	1.5	-	-
2.5 On-farm wages (casual)	2,133	3.3	6,400	4.9	3,700	1.4
2.6 Off-farm wages (casual)	5,700	8.9	467	0.4	267	0.10
Sub total	*26,033*	*40.8*	*54,067*	*41.1*	*154,633*	*59.4*
3.Forests products (CF)	4,264	6.7	5,336	4.1	5,215	2.0
Total	63,897	100.0	131,516	100.0	260,332	100.0

Source: Fieldwork by author, 2008

5.6.2. Household Income in Sharada Devi CFUG during Pre/Early and Late Periods of Conflict

During the priod of armed conflict households in Sharada Devi have diversified their souce of income by intensifying agriculture and animal hunbanday as well as other oppurtunities available. Surprisingly, household income in Sharada Devi CFUG increased by 44% during the period of armed conflict (see Table 5.18). The overall household income increased during the period of conflict mainly due to the shift to poultry farming and a significant increase in overseas employment. The shift to poultry farming may be due to the fact that as the Sharada Devi community is very close to the market, that poultry raising is far less labor intensive as compared to other farming activities and is a good source of cash income. The boost in overseas employment can be attributed to the search for better income opportunities and as a strategy to escape fom the conflict.

Table 5.18: Mean Household Income (NRs) in Sharada Devi CFUG (1995/96 – 2006/2007)

Source of income	Pre/Early conflict (1995/96–2000/01)	Late conflict (2001/02-2006/07)	Change (%)
1.Agriculture and livestock sector			
1.1 Cereal crops	16,977	17,226	+1.5
1.2 Vegetable farming	10,922	16,251	+48.8
1.3 Fruit	333	467	+40.0
1.4 Dairying	27,144	27,122	-0.1
1.5Small animals (goat/sheep)	4,222	4,667	+10.5
1.6 Poultry	111	2,756	+2380.0
Sub total	*59,710*	*68,488*	*+14.7*
2.Service sector			
2.1 Salaries/waged work (permanent)	26,911	43,756	+62.6
2.2 Overseas employment	0	8,356	+8356
2.3 Self employment	5,267	19,244	+265.4
2.4 Pension	667	667	0.0
2.5 On-farm wages (casual)	5,622	4,078	-27.5
2.6 Off-farm wages (casual)	3,556	2,144	-39.7
Sub total	*42,022*	*78,244*	*+86.2*
3.Forest products	1,403	1,421	+1.3
Total	103,135	148,154	+43.7

Source: Field survey by author, 2008

When household income (Table 5.19) is further disaggregated among different income categories it shows that during the period of conflict, overall household income increased by 30%, 28% and 55% among low-income, middle-income and upper-income households respectively. It is important to note that the income from community forest increased marginally during the period of conflict by 1.76%, 1% and 0.7%, among low, middle and high income household respectively. While there appears to be a marginal increase, this would need to have been studied over a longer period to investigate its significance.

Table 5.19: Mean household Income (NRs) during Pre/Early and late Conflict Periods in Sharada Devi CFUG

	Low income			Middle income			High income		
	Pre/early conflict	Late conflict	Change (%)	Pre/early	Late conflict	Change (%)	Pre/early conflict	Late conflict	Change (%)
1.Agriculture and livestock sector									
1.1 Cereal crops	9,180	8,780	-4	18,933	18,313	-3	22,817	24,583	+8
1.2 Vegetable farming	3,567	10,187	+186	10,133	12,967	+28	19,067	25,600	+34
1.3 Fruit	800	800	-	-	200	-	200	400	+100
1.4 Dairying	8,667	10,800	+25	40,367	35,033	-13	32,400	35,533	+10
1.5. Small animals (goat/sheep)	2,367	2,767	+17	4,567	5,600	+23	5,733	6,367	+11
1.6 Poultry	267	267	-	-	-	-	67	8,000	+11899
Sub total	*24,847*	*33,600*	*+35*	*74,000*	*72,113*	*-3*	*80,283*	*100,483*	*+25*
2. Service sector									
2.1. Salaries/waged work (permanent)	2,400	11,000	+358	12,000	26,000	+117	66,333	94,267	+42
2.2. Overseas employment	-	-	-	-	6,400	-	0	18,667	+18667
2.3. Self employment	3,800	7,200	+90	2,667	12,800	+380	9,333	37,733	+304
2.4. Pension	-	-	-	2,000	2,000	0	0	0	-
2.5. On-farm wages (casual)	4,267	2,133	-50	6,533	6,400	-2	6,067	3,700	-39
2.6. Off-farm wages (casual)	9,800	5,700	-42	533	467	-13	333	267	-20
Sub total	*20,267*	*26,033*	*+30*	*23,733*	*54,067*	*+28*	*82,067*	*154,633*	*+55*
3. Forest products	4,209	4,264	+2	5,240	5,336	+1	5,175	5,216	+1
Total	49,322	63,897	+30	102,974	131,516	+28	167,525	260,332	+55

Source: Field survey by author, 2008

5.6.3. Contribution of Community Forest (CF) to Household Income and Livelihoods in Sharada Devi CFUG

Because the wild resources received from forests are gathered and used directly without entering the market, the valuation of these resources for livelihood security of rural poor and forest dependent communities is ignored by planners and decision makers (IIED 1997a, 5). Despite the apparent small financial contribution to household income from forest products, forest goods and services

nevertheless provide important economic benefits to local communities, which are underestimated in national economic statistics as well as this survey. Government statistics in many countries record only the income from the formal forestry sector, ignoring the indirect environmental services and the contribution of forest products through the informal sector (Mogaka et al. 2001, 7). Since forest products are mainly used for subsistence purposes and never reach the market for economic valuation, their value is hard to estimate accurately. It can be argued that the value of the subsistence use of forest products is far greater than its formally calculated economic value. 'Consumptive values' refers to these benefits received from the direct use of the forest products.

It is difficult to assess the monetary value of ecosystem services such as watersheds and soil conservation, water flow regulation, and carbon sequestration (Merlo and Croitoru 2005, 29). The community forest in Nepal renders essential inputs to the farming system and is well integrated into the farming system (Dev and Adhikari 2007, 148). The contribution of the community forest in the Sharada Devi farming system is also significant as it provides various inputs for agriculture and animal husbandry. However, it is difficult to estimate the flow of energy from community forest to farming systems, and to calculate the benefits directly in simple monetary terms. The resources from community forests form an extremely important input to community livelihoods.

A focus group discussion was held with village women in Sharada Devi CFUG to examine their viewpoint on the contribution of community forest to local livelihoods. They confirmed that people in Sharada Devi CFUG accrue substantial benefits from their community forest. One woman said that "she loves the community forest more than her children" since the forest was her main source of livelihood. She further stated that community forests supported local livelihoods in many ways. First, community forests provided fodder and grass that supports animal husbandry. Similarly leaf-litter collected from the CF is used as bedding material for livestock, which is ultimately converted to compost and applied on the farm for maintaining soil fertility that helps to increase agriculture production. Secondly, community forest provides fuel-

wood, an affordable source of household energy for cooking for the majority of the households. Thirdly, the community forest serves watershed protection that provides benefits to downstream users in the form of drinking and irrigation water.

Villagers reported a direct link between the conservation of forest resources and an increase in the quantity of water from the forest watershed. They also stated that the establishment of community forest has directly helped to increase their household income. Before the inception of the CF, their land tended to be fallow in the winter season after the harvest of wheat until the rainy season, mainly due to the shortage of water for irrigation. Previously, nobody grew and sold vegetables from this community. However, the protection and restoration of the CF lead to a significant increase in the availability of water resources and has resulted in most households growing off-season vegetables and earning substantial additional cash income (see Table 5.20). Moreover, due to the increase in the availability of grass, fodder and leaf litter from the CF, most villagers are rearing milking buffalo. 18% of total household income is derived through the sale of milk (see Table 5.17). A direct benefit received from the community forest is the availability of drinking water. Before the establishment of the Sharada Devi CF, there were only eight community drinking water taps in Sharada Devi CFUG due to the shortage of water. Recently, another 25 water taps have been constructed to provide access to drinking water for the entire community. This was made possible due to the increase in the quantity of water in the stream and springs coming from the CF watershed. It is evident that significant inputs for primary production are derived from the community forests. CFUG members stated that farming and animal husbandry are completely dependent on the inputs drawn from the community forests. In Sharada Devi CFUG 45% of total household income comes from the combined agriculture and livestock sector which is largely supported by community forest products and environmental services.

During the course of this study, an attempt has been made to calculate the income from forest products in terms of the value for consumption. The “consumptive value” is defined as the quantity of forest products directly

obtained and used by households. The "consumptive value" has been calculated in economic terms based on the quantity of forest products used by each household annually from the CF, and the local market value of such products. However, valuation of non-consumption uses like biodiversity conservation, watershed protection, recreation, aesthetic, cultural and spiritual values are equally important but difficult to assess in economic terms, and such calculation is beyond the scope of this study.

Table 5.20: Consumptive Value of Forest Products (NRs) by Income Category during Pre/Early and Late Conflict Periods at Sharada Devi CFUG[83]

Forest Products	Low-income			Middle-income			Upper-income		
	Pre/early conflict	Late conflict		Pre/early conflict	Late conflict		Pre/early conflict	Late conflict	
	Amount (NRs)	Amount (NRs)	Change (%))	Amount (NRs)	Amount (NRs)	Change (%)	Amount (NRs)	Amount (NRs)	Change (%)
Fuel wood	2,480	2,450	-1.2	2,520	2,520	-	2,520	2,520	-
Fodder	505	490	-3.0	630	665	+5.6	730	770	+5.6
Grass	175	200	+14.2	120	150	+25.0	200	150	-25.1
Leaf litter	1,050	1,125	+7.1	1,970	2,000	+1.5	1,725	1,775	+2.9
Total	4,209	4,264	+1.3	5,240	5,336	+1.8	5,175	5,216	+0.8

Source: Fieldwork by author, 2008

The statistics above show that the gross value of forest products collected from the CF is slightly higher among middle-income and upper-income households as compared to low-income households. However, the percentage of the contribution of CF to household income is higher among low-income households as compared to middle and upper-income households (see Table 5.18). Interestingly, the data indicate that the household consumption value of forest products increased among all income groups during the period of armed insurgency, indicating that there was no negative impact on the income accrued from community forests during the armed insurgency.

In conclusion, it may be said that people are less dependent on the community forest for household cash income to support their livelihoods according to the

[83] The income from forest products was calculated based on the work of Gregersen at al. (1995) and Murthy et al. (2005) where consumptive value of forest products in each CFUG was calculated based on per unit current local price of the particular forest products and multiplied by the amount of forests products used by the households. The consumptive value of forest products used by households in Sharada Devi CFUG was calculated based on the local value of the particular forest products. After discussion with general members and CFUG committee members, the price of the forest products was fixed at the rate of NRs 50/- per cu ft for timber and a NRs. 25/- for a *bhari* of fuel-wood, fodder, leaf-litter and grass.

availability of development opportunities, and that the significance of the community forest as a direct provider of a living to marginalized people may decrease as these expand. However, the significance of community forest in supporting animal husbandry and agriculture and maintaining ecosystem functions is increasingly recognized.

5.6.4. Community Forestry- Based Employment at Sharada Devi CFUG

With the inception of the community forestry program in Sharada Devi, some opportunities for employment have been generated[84]. From 1995/96 through 2006/07, the Sharada Devi CFUG created about 6,648 person days[85] of employment for the local community. Employment opportunities are generated mainly during forest thinning operations and implementation of various community development activities within the community. 49.4 % and 50.6 % of employment was generated during the early and late conflict periods respectively. These data show virtually no impact on CFUG based employment in Sharada Devi community during the armed conflict (see to Table 5.22).[86]

Table 5.21: Employment Generated by Sharada Devi CFUG during Pre/Early and late Conflict Periods

Activities	Total employment (Person days)	Pre/Early Conflict (1995/96 to 2000/01)		Late Conflict (2001/02 - 2006/07)	
		Person days	% of total	Person days	% of total
Forest management	6,456	3,172	47.7	3,283	49.4
Community development	193	109	1.6	84	1.3
Total	6,649	3,281	49.3	3,367	50.7

Source: Compiled from Sharada Devi CFUG records

The Sharada Devi CFUG has also made contributions in the livelihoods of women through literacy classes conducted through the assistance of the Nepal

[84] The employment opportunities generated from community forestry activities are calculated based on the expenditure of the CFUG in a particular year and the local wage rate of that particular year. However, employment generated from community forestry-supported activities like increases in vegetable farming, animal husbandry are not included.

[85] Person days refer to the time in days required for one person to complete a task in an 8 hour shift.

[86] However, discussion with blacksmiths revealed that their livelihoods depended on making and selling of tools like spades, axes, ploughs, sickles, knives and other household utensils. During the late conflict periods they could not make and sell such tools due to the restrictions imposed by the security forces, which drastically reduced their incomes. Security forces believed that the tools manufactured by the blacksmiths might be used as weapons by the Maoist insurgents.

Australia Community Forestry Project (NAFP) and DFO, which helped raise awareness among women and made them confident enough to express their opinions in public forums. In the last eight years, women in the Sharada Devi CFUG have formed 12 women's saving and credit groups. As most of the productive resources are in the hands of men, this saving and credit scheme provides credit to women at a low interest rate that has increased their productive capacity. Those who become members of the women's saving and credit group deposit NRs. 50/- per month into the revolving fund, which is provided to its members for pursuing various activities like vegetable farming and purchase of milking buffalo. The limit of credit for vegetable farming is NRs. 10,000 and for the purchase of buffalos NRs. 30,000, and the interest rate is 13% per annum. A member of the women's saving and credit group said "after the establishment of the women's saving and credit group, women's status in society, as well as in the household has improved significantly". According to her, women are now in a position to recommend and give loans to their counterparts which has boosted their image in family as well as in society. Such saving and credit groups have been supported by various organizations including the Participatory District Development Planning (PDDP)[87], *Nari Chetana*[88] and Chhimek Bikas Bank Ltd (Neighbourhood Bank)[89]. The women reported that even during the period of conflict, the saving and credit groups were functioning smoothly.

5.7. Environmental Sustainability Outcomes of Sharada Devi CFUG

Measuring environmental outcomes[90] of any common property resource management regime is not an easy task (Baland, Bardhan, and Bowles 2007, 6).

[87] Participatory District Development Programme (PDDP) is a follow-up to "Supporting Decentralisation in Nepal" (NEP/92/027), a Nepal Planning Commission (NPC)/UNDP project which worked primarily at the district-level to promote decentralised participatory development and to strengthen local governance in Nepal.

[88] *The Nari Chetana Kendra Nepal* (WACN), an NGO, has been collaborating with Helvetas Nepal since 1993 for conducting integrated Community Based Development Program (ICBDP) in Kavrepalanchok District. Activities include social mobilization, group formation, informal group savings, informal education, capacity building and cooperative establishment. These have been effectively implemented by WACN for empowerment of rural women.

[89] *Chhimek Bikas Bank Ltd*. is a microfinance development bank. It provides microfinance services to women and the marginalized and deprived living below the poverty line.

[90] Environmental outcomes and outputs are two different things. Outputs generally refer to tangible results of any collaborative plans, policy and projects. Environmental outcomes refer to the effects of outputs on environmental and social condition (Koontz and Thomas 2006, 113).

Different scholars have focused their study by measuring environmental outcomes in terms of crown cover, forest stock, or the flow of resources such as the quantity of harvests or the number of head loads of fire-wood collected in a particular time period (Somanathan, Prabhakar, and Hehta 2007, 270; Baland, Bardhan, and Bowles 2007, 249). Also subjective measures such as the participants' perceptions of environmental improvements through survey and interviews have been used to gauge environmental outcomes (Gaspart and Platteau 2007, 165; Leach, Pelkey, and Sabatier 2002, 652). The appropriateness of these measures to evaluate environmental outcomes varies across space and according to circumstance (Brogden 2003). During fieldwork, the environmental outcomes of the Sharada Devi CFUG were assessed based on perceptions of forest users and the environmental indicator data available. Several rounds of focus group discussions and interviews were conducted to assess local people's perceptions of environmental benefits after the establishment of Sharada Devi CFUG.

CFUG members concurred that the establishment of community forests led to several environmental benefits. The most important environmental outcome as reported by the local users was the improvement in forest condition, which greatly helped in improving local environmental quality. Moreover, people reported that illegal harvesting, encroachment; cultivation of marginal land, and open grazing had stopped completely after the inception of the CFUG. In addition, community forests provided environmental services such as greenery, biodiversity conservation, watershed protection, erosion and landslide control. Other benefits of spiritual and recreational value that the local community derives from CF were regarded as equally important. The Sharada Devi CFUG has invested a small portion of its income for the development of an ancient temple, Sharada Devi, which is located in Sinagal village. In the long run, they have planned to develop the Sharada Devi community forest as a unique ecotourism site for bird watching and trekking, with a tower on the mountain top for a panoramic view of Kathmandu city along with historic cities in Bhaktapur, Lalitpur and Terai districts. By developing the community forest as an ecotourism destination, the Sharada Devi CFUG has planned to earn substantial

amounts of money and invest the income earned from ecotourism in conservation of the forest as well as in overall community development.

5.7.1. Status of Wildlife in Sharada Devi CFUG

Sharada Devi CFUG members were asked whether they experienced any changes in the status of wildlife in the community forest after the inception of the community forestry program. Most people reported that before the establishment of the community forest there were no wildlife in the degraded forest except rabbits and jackals. According to the forest users, after the establishment of the community forest and conservation program, many species of wildlife have migrated into the community forest and their numbers have increased significantly. While visiting the forest for assessing forest products, forest users in Sharada Devi reported numerous encounters with wildlife, although the exact numbers are not known. Table 5.22 lists those species which were sighted. However, the increase in the number of wildlife has had some negative impacts as well. Farmers reported that wildlife destroyed their crops, and in 2007 a child was killed by a leopard.

Table 5.22: List of Wild Life at Sharada Devi CFUG Sighted by Informants

Vernacular name	English name	Scientific name
Wild animals		
Bandel	Wild boar	*Sus scrofa*
Pate Bagh	Tiger	*Panthera tigris tigris**
Chituwa	Leopard	*Panthera pardus*
Dumsi	Porcupine	*Hystrix indica*
Salak	Chinese pangolin	*Manis pantadactyla**
Rabbit	Hispid hare	*Caprolagus hispidus*
Shyal	Jackel	*Canis aurevs*
Ban Biralo	Wild cat	*Telis chans*
Chittal	Spotted dear	*Axix axis*
Ratuwa mirga	Barking Deer	*Muntiacus muntaijak*
Lokharke	squirrels	*Funambulus spp.*
Birds		
kalij	kalij pheasant	*L. l. leucomelanos*
Battai	Quail	*Coturnix coturnix*
Titra	Hill-partridge	*Arborophila torqueola*
Fiste	-	-
Lampuchree	Yellow billed Blue Magpie	*Urocissa flavirostris*
Dhukur	Oriental Turtle Dove	*Streptoplia orentalis*
Koili	Plaintive Cuckoo	*Cacomantis merulinus*

Source: Fieldwork by author, 2008 * Protected species under Nepalese law

5.7.2. Status of Regeneration and Stock of Trees at Sharada Devi CFUG

Until the late 1980s, the present forest area occupied by the Sharada Devi CFUG had become completely degraded shrubland. In 1993 the forest came under community-based management and the local community took over management of this forest. After 15 years of community-based forest management, the Sharada Devi forest is now converted back into a dense forest, although the forest is still young. Although the community carried out plantation in a few patches of the forest, most of the forest has been established through regeneration. This forest is composed of broadleaf species, mainly *Schima-Castanopsis* (katus-chilaune) forest type, which is common in the Middle Hills of Nepal. A recent forest inventory conducted in 2008 by Sharada Devi CFUG with the technical help of foresters from DFO indicates that the tree size, density, and species composition have significantly improved after the establishment of community forests. Inventory data show that the regeneration of forest species is encouraging. A recent forest inventory prepared by Sharada Devi CFUG shows that there are about twenty- three thousand trees per hectare in Sharada Devi community forest, out of which 17,375 are saplings[91] and 5417 pole size[92] trees (see Table 5.24). Since there is a large number of trees per hectare, every year a thinning operation is carried out to remove trees that are growing too close together. The main purpose of the thinning operation is to maintain a healthy stock of forest by promoting the growth of trees and also to reduce the risk of wildfire. The fuel-wood generated from such thinning operations is distributed among the CFUG members.

[91] Saplings refer to young trees below 5 cm diameter at breast height (DBH).
[92] Pole size refers to young trees having 5- 10 cm diameter at breast height.

A recent assessment conducted by the CFUG shows that the crown cover of the Sharada Devi CF is now 60%[93] which indicates that the status of the forest is above average. The regeneration status of the forest is as follows:

Table 5.23: Status of Forest Regeneration in Sharada Devi CF

Local name	English name	Botanical name	Saplings (no. of trees/ha)	Pole size tree (no. of trees/ha)
Katus	Chinquapin	*Castanopsis indica* (Roxb.)	1,544	1,373
Chilaune	schima	*Schima wallichii (DC.) Korthals*	3,500	178
Phalant	Oak	*Quercus lamellose*	307	794
Setikath	-	*Myrsine capitellata* Wall.	1,437	770
Kafal	Box myrtle	*Myrica esculenta Buch-Ham- ex D. Don*	236	194
Kalikath	-	*Myrsine semiserrata* Wall.	685	102
Jhingane	-	*Eurya acuminate*	100	227
Jamun	Indian blackberry	*Syzigium cumini (L.)* Skeels	34	53
Other species	-	-	9,532	1,726
Total			17,375	5,417

Source: (Sharada Devi CFUG 2008)

The forest inventory prepared by Sharada Devi CFUG with the technical assistance of forest technicians shows that the growth of trees at Sharada Devi CF is promising. Data indicate that six tree species predominate in the community forest. The mean annual increment of timber in the Sharada Devi CF is 2,806 cubic feet per hectare per year (see Table 5.24). This figure indicates that in years to come, Sharada Devi CFUG can earn a substantial amount of money from the sale of forest products, which can be used for community development.

[93] Canopy cover refers to the percent of a fixed area covered by the crown of an individual plant species or delimited by the vertical projection of its outermost perimeter; small openings in the crown are included.

Table 5.24: Status of Forest Stock at Sharada Devi CF

Local name	10-30 cm diameter		Above 30 cm diameter		Total number of tree/ha	Mean annual increment (cubic feet)[94]
	Number of trees/ha	Volume (cubic feet)	Number of trees /ha	Volume (cubic feet)		
Katus	558	996	-	-	558	996
Chilaune	157	242	-	-	157	242
Phalant	22	20	-	-	22	20
Setikath	3	2	-	-	3	2
Kafal	52	73	-	-	52	73
Sallo	69	809	17	463	96	1,272
Others	167	201	-	-	167	201
Total	1,028	2,343	17	463	1,055	2,806

Source: Sharada Devi CFUG (2008)

People in the hills and mountains of Nepal have always used a variety of medicinal plants from the forest for the treatment of various ailments. Since there is no reliable access to health care system, people in rural areas depend upon these medicinal plants. Recent inventories show that there are significant non-timber forest products (NTFP) which have medicinal properties and are found in the Sharada Devi community forest.

According to the people in Sharada Devi CFUG, future growth of the NTFP industry is promising. At present people do not collect and sell medicinal plants on a commercial scale due to their low volume. However, local households use the medicinal plants frequently for the treatment of various ailments.

[94] The mean annual increment is the average net annual increase in the yield (expressed in terms of volume per unit area) of living trees to a given age, and is calculated by dividing the yield of a stand of trees by its mean age (Centre for International Forestry Research (1999).

Table 5.25: Status of Non-timber Forest Products at Sharada Devi CFUG

Local name	Scientific name	No. of plants per ha.
Kukur Daino	Smilax macrophilia	1,732
Nigalo	*Himalayacalamus fimbriatus*	1,828
Ban Pan	*Hemigraphis hirta Vahl.*	142
Others	Dhasingare **(***Gaultheria fragrantissima* Wall.); Aaiselu (*Rubus ellipticus*); Sungabha (*Dendrobium clavatum* Roxburgh*)*; Nundhiki (*Osyris wightiana* wall. Ex wight); Banlasun (*Allium carolinianum DC.*); Chiraito(*Swertia chirayita*); Ban Kera (*Capparis zeylanica*); Kukurdaino (*Smilax ferax* wallich ex kunth); Bhyakur (*Dioscorea pentaphylla* L.); Nagbeli (*Lycopodium clavatu*); Bhasme, Kharelo, Rudilo (*Pogostemon benghalensis)*	427
Total		4,129

Source: (Sharada Devi CFUG 2008)

5.7.3. Status of the Watershed in the Sharada Devi CFUG

All of the respondents reported that after the establishment of the community forest, the watershed condition significantly improved. Previously landslides, mudflows, soil erosion and siltation had severely affected downstream operations such as rice production. However, the conservation of the CF has reduced the incidence of these adverse events. Villagers stated that conservation of the community forest has resulted in a significant increase in the amount of water coming from the forest watershed both in terms of quality and quantity. Before the inception of the community forest, the forest was completely degraded and there was a shortage of water, which led to frequent conflicts among farmers for water especially during nursery bed preparation for paddy. Now farmers have sufficient water for irrigation and drinking. One farmer reported an annual income of NRs 10,000/- before the inception of the community forest from wheat production. After the wheat harvest, the land tended to be fallow until the rainy season because of the shortage of water for irrigation. However, when the source of water was significantly increased, through protection provided by the CF, the farmer now earns an annual income of Nrs 40,000/- from the same piece of land and grows additional vegetables and crops. Another farmer from the same CFUG said that he has a small land holding

on which he grew rice and maize that was previously left fallow in the spring, as there was insufficient water to grow other crops. Now there is sufficient water to grow off-season vegetables from which he earns an additional Nrs 25,000. In recent years, many villagers have started growing vegetables on a commercial scale mainly because of the increase in the quantity of water. Moreover, as noted above, it was possible to add 25 water taps to the eight previously available in the Sharada Devi community due to the increase in the quantity of water in the stream and springs from the CF watershed.

5.8. Conclusion

The Sharada Devi Community Forest (SDCF) is located close to the district centre and well connected with the market. The majority of households belong to the middle income group (54%) and depend upon agriculture or the wage/salaried sector for their incomes. The Sharada Devi community forest is mainly composed of natural regeneration of broadleaf species and the per capita area of forest is 0.20 hectare. The Sharada Devi CF has been able to fulfil local demand for forest products partially. The data indicate that off-farm income has become the largest single source of household income. The second largest source of household income comes from farming activities, i.e. agriculture and animal husbandry (45%), where community forest makes a major contribution, mainly in terms of animal feed, composting, and water for irrigation.

On average about 69% of the population in Sharada Devi depend on fuel-wood collected from forest as a source of household cooking, however the dependency of people from the lower-income group is 93%, which demonstrates that CF matters most to poorer people. Through their limited income the Sharada Devi CFUG is implementing various community development activities. The training, observation tours, and literacy classes for women conducted by the Nepal-Australia Community Forest Project have improved awareness among women, and social capital has been improved through the establishment of new community institutions such as a women's group, saving and credit group, and youth club Similarly, there has been an incremental development of natural capital reflected in improved regeneration, greenery, forest stock, biodiversity,

and enhanced water regime. There is a significant increase in the supply of forest products every year, and reported increases in the number and species of wildlife. Due to enhanced watershed protection, the most noticeable outcomes have been improved irrigation and drinking water facilities, off-season vegetable farming and dairying. Due to the good conservation outcomes, the Sharada Devi CFUG has been awarded the "*Bandevi Puraskar*" – a prestigious national prize in appreciation of their exemplary contribution to local forest management. Many international visitors regularly come to this forest to learn about the successful model of community-based forest co-management at the local level.

Community-based forest co-management in the Sharada Devi CFUG has had a positive impact on the bio-physical environment and building capacity of resource users. Nonetheless the voices and representation of women and the socio-economically marginalized in forest policy formulation and benefit sharing needs to be further strengthened. Most of the income generated from the community forest has been invested in infrastructure development and forest management activities, with limited focus on income-generating activities. Some policies of positive discrimination to address the issue of equity have been initiated, including free membership, and free timber for the construction of houses for poorer sections of the community. But there is a need to formulate a pro-poor program in order to increase the socio-economic status of marginalized sections of the community.

During the late conflict periods of insurgency, the outreach activities of the District Forest Office in Kavrepalanchok were greatly reduced. However, the study found that there was no marked impact as a result of the armed conflict on the governance regime of Sharada Devi CFUG. The mechanisms of community-based forest governance continued to function there. This study suggests that community-based forest governance is resilient, and can adapt and respond to challenges according to the changing situation.

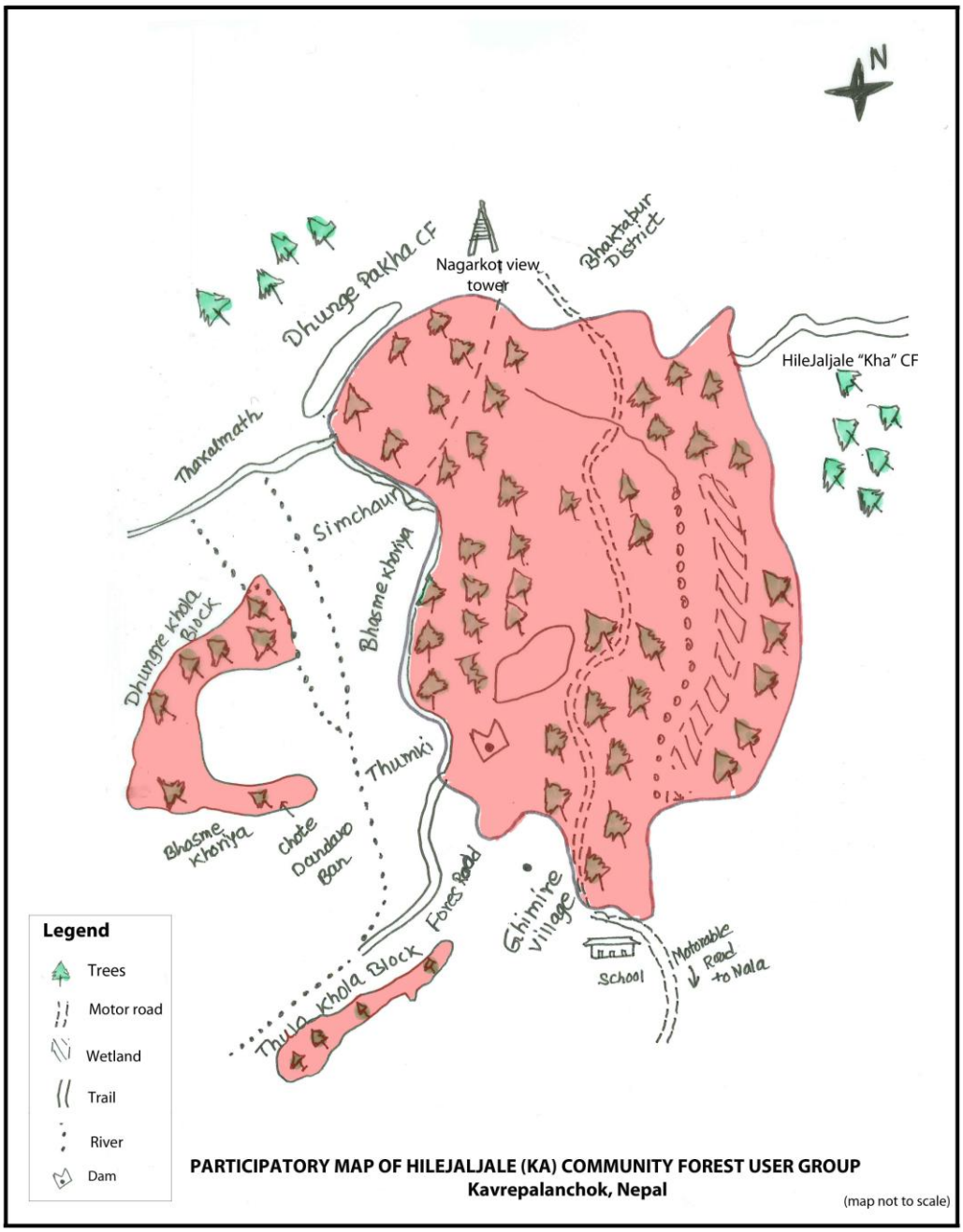
Chapter 6

Case Study Two: Hile Jaljale (Ka) Community Forest User Group (CFUG)

6.1. Introduction

Hile Jaljale (Ka) Community Forest falls under the Tukucha Village Development Committee (VDC) ward no. 6 and 7, Ghimire Gaon of Kavrepalanchok district, north-east of Kathmandu. The Hile Jaljale CF is connected with a dirt road to Banepa, a commercial centre of Kavrepalanchok. The altitude of the Ghimire Gaon varies from 1500 to 2100 meters above the sea level. The Hile Jaljale community forest (CF) is situated between Majhuwa Khola in the east, Punyamata Khole in the west, cultivated land of Bhesonath and Tikaram Ghimire in the north and the confluence of the Thulo Khola and Punya Mata Khola in the south. Although, most of the areas are sloping terrain, about 14 (70%) sq. km of the area is under cultivation. Agriculture and animal husbandry are the main sources of livelihood for more than 90% of the residents. Other sources of livelihoods include wage labour, salaries/waged work (permanent), overseas employment and small business. The bulk of the household income is obtained through the sale of milk and vegetables, especially the cultivation of potatoes, cauliflower, cabbage, and beans. The major cereal crops grown in this area are rice, maize, wheat and millet. The community forest provides important inputs to farming and animal husbandry, and supports local livelihoods through the supply of fuel-wood, fodder, timber, manure and water.

Map 6.1: Participatory Map of Hale Jaljale (Ka) Community Forest



Source: Prepared by author with the help of CFUG Members

6. 1.1. Bio-physical Characteristics of Hile Jaljale (Ka)

The Hile Jalajle (Ka) CFUG has a total area of 118 hectares, which is divided into 7 blocks and 27 sub-blocks and 7 working circles. The majority of trees in the forest are pines aged more than 20 years.

Table 6.1: Bio-physical Characteristics of Hile Jaljale (Ka) CF

Description	Number
Total area of forest (ha.)	118.14
Forest blocks	7 Blocks, 27 Sub-blocks and 7 Working Circles
Manageable forest area (ha.)	89.64
Aspect	South – West and North-East
Slope (degrees)	Oct-25
Canopy coverage (%)	65
Age of forest (years)	20
Average altitude (meters) above sea level	2020
Major forest species	*Pinus patula, Pinus walichiana, Schima wallichii, Rhododendron arboreum Sm, Castanopsis indica, Myrica esculenta,*

Source: (Hile Jaljale (Ka) CFUG 2001)

6.1.2. Socio-economic Profile of Hile Jaljale (Ka) CFUG

A household questionnaire survey was administered to assess the basic household characteristics of the CFUG in Hile Jaljale (Ka) CFUG. Predictably, the survey data indicate that households with upper incomes have more family members and higher educational status than middle income and low income households (see Table 6.2).

Table 6.2: Household Characteristics by Income Category in Hile Jaljale CFUG

Household characteristics (mean values from sample)	Low-income	Middle-income	Upper-income
Household size (no.)	6	6	9
Average age of household head (yrs)	38	54	51
Household income			
Mean annual household income (NRS)	48,593	81,200	174,367
Mean annual household income (US$)[95]	657	1,097	2,356
Education of household head			
Overall literacy rate (%)	73	40	100
Illiterate (%)	27	60	-
Primary education (%)	73	27	60
Secondary education (%)	-	13	7
Higher secondary education (%)	-	-	13
College/University (%)	-	-	7
Livestock holding (average no.)			
Buffalo	0	2	1
Cow	0	1	2
Goat/Sheep	2	3	6
Chicken	1.87	0	0
Household with:			
Electricity (%)	80	100	100
Piped water (%)	93	100	93
Telephone (%)	47	73	87
Radio/television (%)	87	93	100

Source: Field survey by author, 2008

There are a total of 243 households in the Hile Jaljale (Ka) CFUG, with a total population of 1,569. All households are members of the Hile Jaljale community forest user group. Out of the total population, 92% belong to Brahman/Chettri 'upper' castes and the remaining households belong to ethnic minorities and occupational castes such as Kami and Damai.

Table 6.3: Demographic Profile of Hile Jaljale (Ka) CFUG

Caste	Number of households	Population	Total population (%)
Brahman/Chhetri	219	1,388	92
Kami (blacksmiths)	13	73	5
Damai (tailors)	7	36	2
Bhujel	2	9	1
Newar	2	10	1
Total	243	1,516	100

Source: Hile Jaljale (Ka) CFUG Constitution, 2005

[95] 1 US$ equivalent to Nepali Rupees (NRs) 74

The land holding sizes of Hile Jaljale (Ka) CFUG members differ between wealth groups. The average land holding per household is 3 *ropani*[96] for low-income households, while it is 4.6 and 20 *ropani* for middle-income and upper-income households respectively (see Table 6.4). Moreover, upper-income households have fertile irrigated land and private forests while middle-income households have moderate land holdings with irrigated land but do not have private forests.

The low-income households have less land, mostly un-irrigated upland, and do not possess private forests.

Table 6.4: Mean Land Holding in Hile Jaljale (Ka) CF by Income Category

Land holding	Low-income	Middle-income	Upper-income
Average land holdings (*ropani*)	3	4. 6	20
Irrigated	1	3	6
Rain-fed	-	-	0
Upland	2	2	11
Kharbari[97]	-	-	3

Source: Source: Author, Field survey, 2008

The participatory wealth ranking method (see Chapter One) undertaken with CF users and CFUG executive committee members was used to divide the households into three major classes based on the socio-economic status[98]. The result of the wealth ranking exercise indicates that out of 243 households 12%, 58%, and 30% belong to upper-income, medium and low-income households respectively (see Figure 6.1).

[96] 1 *ropani* is equivalent to 500 square meters, making 20 *ropani* to the hectare.

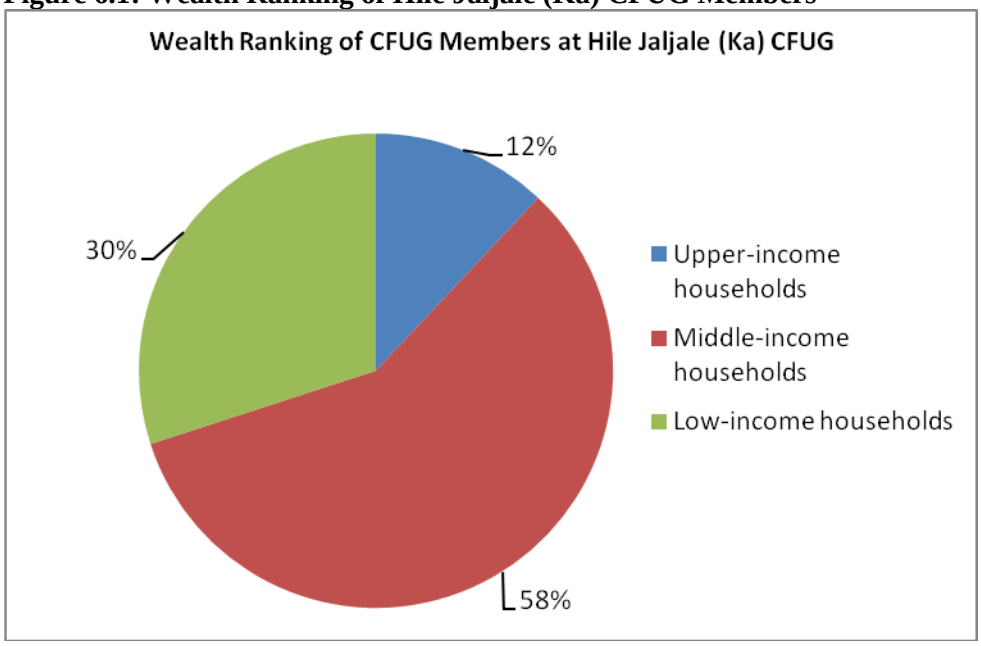
[97] *Kharbari* is a private land designated for growing grass (including thatching grass) and trees to supplement the household's needs for grass, fuel-wood and timber, especially when demand cannot be fulfilled from government owned or communal forests.

[98] Upper-income households supplement their income from farming, local businesses, and salaries/waged work in Nepal and overseas employment. They often have land outside the village, have irrigated as well as un-irrigated land holdings, larger areas of *kharbari* (private forest and pasture land). Generally they have cattle and have food sufficiency.

Middle-income households commonly have land-holdings and cattle, but only modest *kharbari*. Significant household income earned from animal husbandry (including dairying), and vegetable farming (depending on the fertility of the soil and distance to the market). They tend to be heavily dependent on inputs to their farming systems from community forests. Off-farm employment is also important for their income. Generally they produce cereals enough to feed their family for 6 months. For the rest of six months they have to buy food from market or borrow in the village.

Lower income households (including landless households) have small or no land holdings, are mostly dependent on off-farm activities, such as laboring, artisan work (blacksmithing, tailoring, mason, carpentry) and non timber forest product collection. To pursue these livelihoods they have specific needs from the forest distinct from the other wealth-rank groups; such as charcoal for blacksmithing, and fuel-wood and medicinal plants for sale. For most of the year they have to buy food from market to feed their family.

Figure 6.1: Wealth Ranking of Hile Jaljale (Ka) CFUG Members



6.2. Historical Background of Hile Jaljale (Ka) Community Forest

6.2.1. Hile Jaljale (Ka) Forest during *birta* Tenure

The *vamsabali* (genealogical history) found in the *Dahal* village of Tukucha revealed that the present area occupied by Hile Jaljale (Ka) forest was granted as a *Kus birta*[99] by King Jayapati Malla of Nalabalambhu to the ancestors of Ghimire and Dahal clan during the seventeenth century.

The *birtawal* (owner of the *birta*) treated the forest as private property. The water originating from the *birta* land was also managed by the *birtawal*. During fieldwork it was observed that numbers of water canals were constructed for irrigation purposes from the stream originating from the Hile Jaljale forest. There are five irrigation canals that irrigate land in Dahal Gaon (village) and several canals serve Ghimire Gaon. From the time of the granting of birta during the Malla dynasty, up to the unification of Nepal and Rana Rule, the birta area was already a settlement, occupied by the descendents of Dahal and Ghimire clan.

[99] Birta is a form of land grant by the state to individuals who can not participate in economic pursuits by virtue of their religious traditions, or their political and social functions. It was generally provided to priests, religious teachers, soldiers, and members of nobility and the royal family. It symbolized high social and economic status in the society. *Birta* is private property with clearly defined rights (Regmi 1976, 17). Over time *birta* become a corrupt form of land tenure by which favourites of the rulers were rewarded.

The property rights in the *birta* forest were vested as communal rights among all of the descendents of Dahal and Ghimire clan, and the forest was under collective management based on the indigenous system of forest management.

After the emergence of Rana rule, the rulers interfered in *birta* tenure and tried to impose their control over the land. According to the oldest persons in the village, during the Rana regime one patch of the Hile Jaljale (Ka) forest was cleared for the establishment of dairy farming to supply milk to the rulers in Kathmnadu. After the enactment of *Muluki Ain* (civil code), the forest management system practiced by the *birtawals* was disturbed. The Rana regime introduced various changes. In the east of Kathmnadu, Purba Yek Namber Ban Goswara (East No. 1) Forest Inspection Office was established to administer the forest as well as taxation and legal proceedings, and new officers like *dithha* (judge), *bichari* (court record keeper), *and banpale* (forest watchman) were introduced. According to the eldest persons in the village, following the appointment of these officials and functionaries *birta* land came under the control of the state, and the *birtawal* has to follow their instruction for the management and use of forests. The *dittha* had the power to give decisions on forest disputes and rule violations, and the *banpale* (forest watchman) was appointed by the sate to control illegal harvesting and encroachment. During that time, according to the villagers, the following fines and penalties were imposed in cases of violation of rules:

Table 6.5: Local Rules of Forest Management during the Period of Rana Regime

Nature of violation	Fine/penalty
Illegal harvesting of *bhata* (branches of trees) for roofing	NRs. 1/-
Illegal collection of leaf-litter	50/- Paisa
Illegal harvesting of fuel-wood	25/- Paisa
Felling of trees	NRs. 5/-
Intentional forest fire, and hunting of wildlife	The offender is submitted to the *hakim* (Officer) in Forest Goswara for prosecution.

Source: Fieldwork by author 2008

Until the 20th century, the Hile Jaljale (Ka) forest was in very good condition; but it was badly affected by the catastrophic earthquake of 1933. After the

earthquake, large numbers of trees were cut down and brought to the large cities, mainly Kathmandu, Bhaktapur and Patan, for reconstruction of houses destroyed by the earthquake. Large numbers of big trees were also destroyed during the disastrous snowfall of 1943. The Hile Jaljale (Ka) forest was further degraded during the political upheaval of 1944-1950 when the government gave permission to cut the remaining big trees to generate state revenue.

6.2.2. Hile Jaljale (Ka) Forest under Open Access Regime

After the political changes[100] of 1951, the newly formed government abolished *birta*[101] tenure. After the abolition of birta, private ownership of forests no longer existed, and subsequently the Hile Jaljale (Ka) forest became in practice open access. The sudden institutional vacuum created by the abolition of the *birta* system induced the collapse of the traditional system of forest management. After the abolition of *birta* tenure, the Hile Jaljale forest officially came under the control of the state. Without a management system in place, the forest was heavily used for grazing cattle, collecting firewood, fodder and timber from the surrounding villages. Due to these various underlying causes, the forest was completely degraded by 1967. As a consequence, there was a severe shortage of essential forest products, and villagers said they had to walk hours to collect a head load of fuel-wood or fodder.

6.2.3. Hile Jaljale (Ka) Forest under Community Management

The villagers in the Hile Jaljale (Ka) community faced a severe scarcity of forest products during the 1960s and the livelihoods of people were on the verge of collapse (AusAID, 2006). The degradation of forest was so acute that it had severe impacts on the farming system. To improve the livelihoods of people, the Department of Forest (DoF) initiated a large-scale tree plantation program with assistance from the Nepal-Australia Community Forestry Project. In 1969, the

[100] For details on political changes see chapter three.
[101] According to Regmi (1978), *birta* was a grant of land given to a noble as a reward for a service rendered to the state. It was usually both tax free and heriTable, and had no time limit on tenure. After the end of the Rana regime in 1950, the newly formed government enacted the Birta Abolition Act in 1959 and those forest lands under *birta* tenure now came under state control, subject to taxation as agricultural land or nationalized as forest.

denuded hill slope of Hile Jaljale was planted with two species of pines i.e. *Pinus patula* and *Pinus wallichina*. At the beginning of the plantation, some people in the village opposed the plantation program as they feared that this would restrict their access to the forest for collecting fire wood and grazing their livestock. However, as the majority of the villagers were in favor of the plantation, conservation efforts were largely successful. After plantation, the area was fenced to protect it from grazing and encroachment, and the villagers were entrusted by the Forest Department with conservation of the newly established plantation. The program offered employment to local people during plantation and forest fencing as well as jobs as forest watchman. As a result, some sections of the community supported forest conservation and participated actively in the program. Shortly after the completion of fencing, in some section of the forest, fences were destroyed and the poles were stolen. Generally, people who had a large number of livestock and who were enjoying open access grazing were against the plantation and conservation program. Poor people who depended primarily on the forest for meeting various livelihoods requirements such as fuel-wood, medicinal plants, and the collection of roots and shoots as food supplements were also affected. In order to stop the illegal harvesting and encroachment of forest a *banpale* (forest watchmen) from the local community was recruited to guard the forest area and a system of penalties was introduced to punish those who violated the rules of forest management.

In subsequent years, those farmers who had large numbers of livestock replaced them with more productive dairy cattle, and a system of stall feeding was introduced instead of open grazing. People from lower socio-economic strata who relied on the forest for their income through the sale of fuel-wood also changed their livelihood portfolio from wood sellers to wage laborers, taking on casual work in on-farm and off-farm activities. The Chairman of the Hile Jalajlke (Ka) CFUG admitted that there was only one household in the village whose livelihood was totally dependent on the sale of fire-wood collected from the forest. Through a decision of the CFUG general assembly meeting, the person was compensated financially by providing money generated through the sale of firewood and collected through fines and penalties. Five years after establishing the plantation, in 1981 the first thinning operation was carried out

under the supervision of forestry staff from Hattisar[102], and the wood generated from thinning was distributed to villagers for their use. Although the legal authority of the forest was still with the government, villagers were generally happy to get the fuel-wood after the thinning operation. During that time, involvement of local people in forest thinning was guided by the 1978 Panchayat Forest and Panchayat Protected Forest Rules. Within a short time the forest improved significantly and many species of trees were regenerated.

People in Hile Jaljale (Ka) CFUG were actively involved in the protection of forest since the beginning of the plantation program, although they did not have legal authority to manage and use the forest on their own initiative. Villagers were required to obtain permission from the forest department to conduct any kind of forest management activities, which was a lengthy process. In January 1991, since the adoption of the community forestry policy, 75 hectares of government controlled forest was formally handed over to the Hile Jaljale (Ka) community. During the formation process, there was a dispute between Hile Jaljale (Ka) and Hile Jaljale (Kha) CFUGs on the issue of boundaries; but after resolution of the conflict, on February 11, 1998, District Forest Office (DFO), Kavrepalanchok handed additional 36.2 hectares with a total of 111.2 hectares of forest to the Hile Jaljale community. The conflict was solved through dialogue and discussion with the Forest Department, Village Development Committee (VDC) representatives, and local political representatives from various political parties.

After the hand-over of forest, Hile Jaljale adopted a strict policy of protection, with the aim of improving the bio-physical condition of the forest. The users were also allowed to collect grass, leaf litter and firewood under the supervision of the CFUG committee. After a few years of plantation, people experienced some negative environmental changes. There was a significant reduction in the availability of water in streams, springs and wetlands, and a shortage of water for drinking and irrigation. People believed that this had occurred due to the pine plantation, which suppresses the growth of understorey plants and reduces the water-holding capacity of the soil. Hence the availability of water from the forest

[102] *Hattisar* refers to a place where Community Forestry and Afforestation Division (CFAD) was located.

watershed was drastically reduced in the initial phase of pine plantation. However over the next 20 years the quantity of water from the watershed increased gradually, and the forest prospered. Broadleaf forest species started to grow, which helped to increase the water-holding capacity of the forest watershed. A study conducted in South Africa showed that mature pine trees also require less water, which contributes to increased water abundance (Scott and Prinsloo 2008)[103]. According to villagers, after the pine plantation was established, many species of medicinal plants like *Nagbeli (Lycopodium Clavatum), Dwapare,* and *Dhasingare (Gaultheria fragrantissima Wall***)** disappeared from the forest. Informants also reported that after the pine plantation they experienced a rise in temperature, and an infestation of termites. However, despite any initial negative effects of the plantation, after 20 years the Hile Jaljale (KA) forest is now at a stage of harnessing economic benefits. Where there had been an acute shortage of forest products in 1968/69, at present the forest product requirements of CFUG members are totally fulfilled and the CF has contributed substantially to the local farming system.

A joint study was conducted by the Nepal Australia Community Forestry Project (NACFP) and Department of Forest to assess the status of the pine plantation (*Pinus roxburghii* and *Pinus patula)* in Kavrepalanchok and Sindhupalchok districts. The subjective assessment suggested that out of total 8713 hectares of pine plantation in Kavrepalanchok district, which is now under community-based forest management, about 80% of the pine plantations are in average or better condition (NACFP 1995). The study reported that the pine forest was overstocked and required urgent scientific management to improve the health of forest. The study further suggested that the pine plantation has great potential to generate additional income, employment opportunities and the development of forest-based enterprises for the CFUGs, and that sustainable forest management could be achieved through improved forest management and appropriate silvicultural operations.

[103] The study concluded that there was a sharp decline in stream flow after pine plantation (*Pinus radiata*) when the trees were between 10 and 20 years old, however, after 30 years of plantation the flow reduction trend was reversed, and stream flow effects appear to be tending toward pre-afforestation levels. The authors concluded that the reduction in stream flow was mainly due to the rapid growth of trees during the initial establishment period.

6.3. Community-based Forest Governance (CBFG) Arrangements at Hile Jaljale (KA)

Community based forest governance in Hile Jaljale (Ka) commenced after the formal hand over of government control of forest to the local community for management and use on January 15, 1991. The community governance of forest resources is guided mainly by two documents, the CFUG constitution, and the operational plan (OP). These two documents are prepared according to the provisions of the 1993 Forest Act and 1995 Forest rules, and community forestry guidelines issued by the Department of Forest. The CFUG Constitution and OP provide guidelines on the rights and responsibilities of forest users, election process, obligations for accountability and distribution of benefits and services, and decision-making processes. Community forest governance is operated through the collective decision of users and executed by the CFUG executive committee. Membership of the CFUG is the prime requirement through which the identified users have the exclusive rights of using the community forest. Any user who is eligible to be a member of the community forest has to pay Nepalese Rupees (NRs) 100/- as an entry fee, and NRs. 30/- as an annual fee. Those who become members have entry rights to the forest and to extract the forest products according to local rules. The Hile Jaljale constitution classifies users into three categories based on the nature of use and their contributions in forest management.

General Member:

- Traditional users who are living near the forest and are active in forest conservation and utilization.
- Local Range Post and District Forest Office staff[104]; (without rights to nominate for office or vote during the election of the CFUG executive committee).

[104] The reason of providing membership to District Forest Office and Range Post staff is to allow them to enter the forest at any time while pursuing their professional duties as stipulated by the law. As the community forestry is a co-management arrangement between forest users and the Department of Forest (DoF), both parties have equal rights to enter the forest. However, forestry staff does not have rights to use forest products and NTFPs, and they are not allowed to participate and interfere in the decision-making process of the CFUG.

Secondary Member:

- These users who lives in the outer periphery of the forest and use only specific forest products occasionally (once or twice a year), but for reasons of geographical location cannot contribute regularly in the conservation and management of forest.

Special members (tertiary member):

- These users are either general members or secondary members who are using specific forest products to support their livelihood.

According to the CFUG constitution, only the household head is the official member of the CFUG. However, the name of the spouse is mentioned on the membership list. Although both spouses can attend the CFUG general assembly meeting, only the household head can vote in elections. A forest user can be a member of more than one community forest; in such cases a separate list has to be prepared, mentioning those members who are users in more than one community forest. The membership of the CFUG will be terminated if any member migrates from the village. Moreover, the membership will be cancelled automatically if any member violates the existing rules and regulation or the constitution more than three times. The CFUG general assembly can also suspend membership if a member commits any acts against the CFUG constitution repeatedly (more than two times), acts against the interests of other users or against the principle of community forestry, does not pay penalties, does not perform assigned duties, or is involved in corruption.

6.3.1. Regulatory Instruments of Hile Jaljale (Ka) CFUG

Based on the CFUG constitution and Operational Plan, local communities in Hile Jaljale (Ka) have prepared rules for the effective governance and sustainable management of their community forest. The CFUG has a general assembly consisting of all members and an executive committee, selected by the general assembly either by consensus or through formal election. The committee is responsible for the implementation of the decisions made by the general assembly and performing day to day CF operations. The CFUG has an executive committee composed of eleven members: Chairman, Vice Chairman, Treasurer,

Secretary, Joint Secretary and six members. The constitution has adopted a policy of representation in CFUG executive committee from every hamlet, caste, gender and class. Out of eleven members in the committee, there is a mandatory provision requiring nomination of four women members, and one member from disadvantaged groups. Moreover, there is provision for constituting a three-member advisory committee, one coordinator and two members. The advisory members are selected from the general members, especially from elders and respected village leaders, who have extensive knowledge of the forest and influence over the community. The operational plan of the CFUG contains a detailed inventory of the forest, forest status, and a program of forest management, protection and utilization. It also describes in detail the resource mobilization plan, community development plan and benefit sharing mechanism. The Hile Jaljale (Ka) CFUG operational plan, lists the following penalties in case of infraction of operational rules, as follows:

Table 6.6: Fines and Penalties for Violation of Rules at Hile Jaljale (Ka) CFUG

Type of damage	Fine in Nepali Rupees[105]		
	First time	Second Time	Third time
Damage to seedlings/saplings	5	10	20
Timber extraction/cu.ft.	100	200	300
Fodder, leaf litter extraction	50	100	200
Green firewood	25	50	100
Grazing:			
Goats	*5*	*10*	*15*
Cattle	*10*	*20*	*30*
Hunting and setting fire	As per the 1993 Forest Act		
Coal making	500	1,000	1,500
Peeling bark of trees	50	100	150
Cutting of *Ningalo* (Dendrocalamus spp)	5	10	15
Extraction of medicinal plants	50	100	150
Encroachment[106] of forest (per ropani)	1,000	2,000	3,000

Source: Hile Jaljale (Ka) Operational Plan, 2001

In cases of violation of CFUG rules, the Hile Jaljale constitution has delegated power to the Chairman of the executive committee to fine the offender up to the amount of NRs. 999/- on the spot, following a simple procedure based on the Chairman's judgment. However the imposition of penalties above NRs 1,000/-

[105] If anybody violates the rules more than three times, their membership will be suspended for a period of 3 months.

[106] The encroacher has to reforest the encroached area at their expense. In addition, they have to pay the specified penalties and will be suspended from CFUG membership for the duration of 3 months,

and up to 50,000/- requires a detailed investigation, and is subject to approval by the full meeting of the CFUG executive committee. If anybody collects forest products illegally, the products will be confiscated and the person will be prosecuted as per the CFUG rule. Moreover, any person who assists in catching offenders will receive a reward. Likewise, the Hile Jaljale (Ka) CFUG operational plan prohibits the following activities in the forest (Rule 31(1).

- Destruction of forest, mortgage of the area covered by the forest, or transfer of ownership;[107]
- Setting fire to forest, or encouraging others to do so;
- Building a house inside the community forest;
- Destroying trees for agricultural proposes;
- Hunting inside the CF;
- Any actions that could cause erosion; and
- Extracting stone, gravel, sand, or soil.

Under existing forest legislation the Hile Jaljale CFUG is an autonomous institution in perpetuity and has a separate bank account in its name. The income from the sale of forest products, money received as donations, grants, fees, and fines, and from other sources is deposited in its account. The CFUG has authority to invest the CFUG funds in any activities that provide benefit to its members. However, according to the community forestry guidelines, at least 25% of the CFUG income has to be invested in the development and management of the CF as per the section 30(a) of the amended Forest Act 1993.

6.4. Community-based Forest Governance Outcomes at Hile Jaljale (Ka) CFUG

6.4.1. Community Forest Governance in Hile Jaljale (Ka) CFUG during Pre/Early and Late Conflict Periods

The Communist Party of Nepal (Maoist) launched the armed conflict in February 1996 in the remote mid-western hill region of Nepal. According to local people in Kavrepalanchok they did not felt any impact of the conflict on community forest governance arrangements until 1999. However, the situation changed

[107] The transfer of 'ownership' refers to the transfer of contract to any third party, and is illegal.

dramatically after 2000. The armed conflict reached an intense stage in 2001, especially after the Maoists launched a large-scale assault on the military installation at Ghorahi, Dang district on 23rd November 2001. Subsequently a state of emergency was declared by the government on 26th November 2001 (see chapter three for a detailed account of the political conflict). An assessment of the damage caused by the conflict in Kavrepalanchok district (DDC, 2008) shows that out of a total of 87 Village Development Committees (VDCs) and 3 municipalities, 40 VDC office buildings holding official documents were destroyed, and furniture and documents of 13 other VDCs were destroyed by the Maoists during the period between August 2002 and October 2003, with a total loss of NRs 12,114,728 (US$163,712).[108] Forestry department infrastructure was also largely destroyed during this period of armed conflict. Out of eight Range Posts in the Kavrepalanchok district, seven were destroyed with a total loss equating to 1.815 million Nepali rupees (approx. US$24,527), mainly of office documents, buildings, furniture and equipment. The only forestry infrastructure that was not destroyed during that time was the District Forest Office at the district headquarters and the Janagal Range Post at Banepa.

An interview was conducted with the District Forest officer and officer in charge of Janagal Range Post during fieldwork, regarding the status of forest governance in Kavrepalanchok district. It was reported that the main reason behind the destruction of forestry infrastructure by Maoist rebels was to displace government employees from the villages, in order to establish Maoist administration and control over the countryside. After the destruction of the Range Post Offices, a small room was rented in the house of local forestry staff to carry out day to day administrative activities. However, due to the lack of minimum logistical facilities and more importantly personal security, most of the forest rangers were removed from the villages. Those who remained in the village were the forest guards, who in most cases were local residents. Displaced forestry staffs from the range posts were then stationed in the district forest office and the annual plan was implemented with the help of local support staff. The annual programs like forest management training, operational plan

[108] Data obtained from the official records of the District Development Committee, Kavrepalanchok during fieldwork.

preparation and workshops were conducted in relatively safe places, i.e. in the town or district headquarters, in order to minimize risk. Because of the displacement of forestry staff from the field station and lack of monitoring and follow up, the coverage and quality of community forest programs and the participation of people was somewhat compromised. As training was organized in the district headquarters, the participation of women and disadvantaged sections of the community decreased. The statistics show that before the insurgency was felt in the Kavrepalanchok District, the number of forests handed over to CFUGs was high. However, after 2001, the number of forests handed over to the community declined. From interviews with forestry officials, it was apparent that the destruction of forestry infrastructure and displacement of local level forestry technicians from the field had adversely affected the community forest hand-over process.

On July 17, 2000, the government declared an army training zone under the Nepal Army School, Nagarkot, covering an area of 485hectares; including the forest area used by the Hile Jaljale (Ka) CFUG. The area declared for the army training zone falls under 5 VDCs (Baluwapati Deupur, Tukucha Nala, Ugrachandi, Devitar and Nayagaon) in Kavrepalanchok district, and 3 VDCs (Nagarkot, Sundal and Bageswori) in Bhaktapur district. This decision of the government was strongly opposed by local leaders and CFUGs, who protested against the decision. In the face of resistance from the CFUGs, the Nepal Army School, Nagarkot convened several meetings in the presence of Chief District Officers, VDCs Chairmen, local politicians and representatives of CFUGs in order to resolve the conflict. Many rounds of discussions were held but failed to reach agreement. When the talks failed, CFUG representatives were treated by the security forces as supporters of terrorists. The allocation of the CF area to the army training zone was against the existing forest law. The voices of the community were not heard during that time, during which security agendas dominated in the country. When the army did not listen to the viewpoint of the CFUGs, the latter submitted a joint memorandum to the Prime Minister requesting the government to withdraw the decision. There was no response or action from the Prime Minister. Then CFUGs who were affected by the decision requested the Federation of Community Forestry Users of Nepal (FECOFUN),

the umbrella organization representing all CFUGs in Nepal, to raise this issue with government. FECOFUN organized a series of meetings with the army, advocating the rights of CFUGs to manage the CF without any obstruction. After several rounds of meetings and discussions, there was an understanding reached between the army and FECOFUN. The main point of understanding was that the CFUGs could manage and use the forest products from the community forest. However, CFUGs were required to give advance notice to the Nepal Army School, Nagarkot about their activities in the forest and similarly, the army also agreed to give notice to CFUGs when conducting firing exercises in the forest, in order to avoid casualties and undesirable incidents.

Despite all these disturbances, the Hile Jaljale CFUG prepared its second operational plan (2000-2005) with the assistance of the District Forest Office (DFO) and Nepal Australian Community Resources Management and Livelihood Project (NACRMLP) which was approved by the District Forest Officer (DFO) in 2001. The first operational plan (OP) did not have a proper inventory of the forest, and as was generally the case, focused more on protection rather than sustained use. Local livelihood needs, community development, institutional development and pro-poor intervention were not part of the first operational plan. During the process of preparing second OP, local facilitators were trained who conducted consultations in every hamlet with people from different socio-economic groups, in order to identify and address the issues of gender and ethnicity as well as the needs of socio-economically disadvantaged people. The second operational plan prepared a social inventory and resource maps of the village and emphasized scientific forest management based on annual increments,[109] and undertook thinning operations. A wealth ranking[110] of the CFUG members was carried out to generate data on the socio-economic status of users.

In April 3, 2002 government made another cabinet decision and handed over 67.5 ha of community forest area occupied by several CFUGs (including 17.12 hectares from Hile Jaljale (Ka)), to the Geodetic Observatory Office based on

[109] Annual increment refers to the average annual volume of increment of individual trees or stands over the reference period.
[110] See chapter one for the criteria used in wealth ranking.

Nagarkot, without any discussions or consultations with the Department of Forest and concerned CFUGs. Some informants hypothesised that in the face of strong opposition from CFUGs and local leaders to the declaration of CFUG areas as an Army Training Zone, the government might have taken an indirect approach by handing over the area through a civilian office, believing that there would be no resistance from the local community. Indeed, after the formal handover of the CF area to the Geodetic Observatory office, this area was unofficially used by security forces.

According to the operational plan of Hile Jaljale (Ka) CFUG, a total of 802 pine trees needed to be thinned. However, when the forest area belonging to Hile Jaljale was handed over to the Geodetic Survey office, they could not harvest 100 of the trees; which were located inside the forest area which was handed over to the Observatory. Requests by the CFUG to allow thinning operations were ignored, and CFUG representatives were threatened to be considered as terrorists if they tried to enter the forest area. Such threats prevented the CFUGs from carrying out any activities in that particular block of forest. According to personal accounts, those CFUG committee members who lead the protest against the government's decisions found themselves under the scrutiny of the security forces, which put their lives at risk.

The Hile Jaljale CFUG prepared the second generation operational plan with the help of NACRLMP and Department of Forest technicians. During the process of preparing the OP, a pilot study in 20 CFUGS, covering Kavrepalancok and Sindhupalchok to prepare a "pine forest management plan" was carried out. A technical team was formed to train local facilitators. Numerous meetings and discussions were conducted in every hamlet in each CFUG. A number of development plans were prepared including livelihood improvement, business development and women's empowerment plans. Three major elements were considered as the fundamental basis for formulating the second generation operational plan: sustainable forest management; livelihood improvement; and good governance. Hile Jaljale was one of the first CFUGs in Nepal to prepare such a comprehensive plan, which was approved in June 2005. The second generation OP incorporates a number of activities such as thinning of pine

plantations, and spatial zoning of the forest into blocks, sub-blocks and working circles[111].

CFUG members reported that during the period of armed conflict, the villagers did not face any unnecessary pressure or atrocities from the Maoist rebels. However, the rebels did demand 'donations', food and shelter on an occasional basis. As this forest area was adjoining the Nepal Army School, the area was under the close scrutiny of the security forces. During the intense period of conflict, many governmental and non-governmental agencies could not continue their program in the village; however, the Hile Jaljale CFUG continued to function. According to the villagers, it was possible to maintain regular contact and coordination with security forces, especially with the Nepal Army School, Nagarkot. Surprisingly, most of its major works were completed by Hile Jaljale (Ka) CFUG during the period of conflict. The First Operation Plan was renewed in 2001, and the second generation operational plan was prepared in 2005. In addition, the Hile Jaljale (Ka) CFUG carried out silivicultural operations in blocks no. 1, 2 and 4 of the community forest. Moreover, in the same period Hile Jaljale (Ka) CFUG sold 14,000 cu. ft. of log timber outside the community and 6000 cu. ft to its members.

6.4.2. Resilience of Hile Jaljale (Ka) CFUG during Armed Conflict

Hile Jaljale CFUG members reported that after the escalation of armed conflict, every section of the community in Hile Jaljale (Ka) felt some impact on their livelihoods. However, in comparison to other sectors of society, forest governance encountered relatively low impacts. The main reason is the fact that the CFUG had become a commonly accepted institution throughout the area, whose main objective was to fulfil the basic needs of forest products for all the members of the community. More than 90% of the people in Hile Jaljale directly depend on agriculture to fulfil their livelihoods needs. People from all walks of life, irrespective of political ideology, profession, socio-economic and cultural

[111] To make the forest inventory and management plan more effective, the forest has been divided into permanent blocks (using permanent landscape features) and semi-permanent sub-blocks (with homogenous forest types and conditions). A working circle consists of several sub-blocks in order to meet the specific objectives assigned for the particular sub-blocks.

differences, directly depend on the CF for household energy, as there is no other cheap source of fuel wood available. In the changed context, the contribution of the community forest to household income in direct monetary terms is not substantial; however the community forest still occupies an important role in providing livelihood security through support to the farming system. According to Hile Jaljale CFUG executive committee members, they had maintained close contact and dialogue with both security forces as well as with Maoist rebels, in order to facilitate their activities. By maintaining such communication between the two contending parties, Hile Jaljale community was able to continue most of its activities. During the insurgency period the CFUG maintained a very neutral role and did not incline politically toward either of the opposing forces. During preparation of the second generation operational plan, the CFUG informed and briefed both government and Maoist parties separately about their activities so that there would not be any misunderstanding and undesired incidents could be prevented. Finally, without any interference and obstruction, the CFUG was able to complete its second generation operational plan, which was considered a great achievement for the CFUG.

6.4.3. Community Participation in the Decision Making Process

Data collected during fieldwork show that the representation of women on the CFUG Executive Committee was negligible until 2006. However, this increased significantly after 2006. The data indicate that forest governance is largely controlled by men and people from higher castes.

Table 6.7: Representation in Hile Jaljale (Ka) CFUG Executive Committee by Gender, Class and Caste (%)

		Gender		Income category			Caste	
Year	Total member	Men (%)	Women (%)	Upper-income (%)	Middle-income (%)	Lower-income (%)	Higher Caste (%)	Lower caste (%)
1990 - 1992	14	93	7	14	50	36	86	14
1992- 1993	9	89	11	-	56	44	89	11
1993-1995	9	64	36	11	67	22	100	-
1995-1996	9	100	-	33	56	11	100	-
1996-1999	11	91	9	27	45	27	91	9
1999-2001	11	91	9	27	45	27	100	-
2001-2006	11	91	9	27	64	9	100	-
2006 onwards	11	63	36	27	45	27	9	91
Total	85	85	15	21	53	26	84	16

Source: Compiled from Hile Jaljalle (ka) CFUG Records

The records of the CFUG executive committee show that some people repeatedly occupied CFUG executive committee positions. For instance, BR occupied the position of Chairman 5 times, SP occupied the position of Secretary 6 times, BP occupied the position of Vice-Chairman 2 times, and KP occupied the position of Treasurer four times. After the adoption of the second generation operational plan by Hile Jaljale (Ka) in 2005, there was a mandatory policy of nominating four women representatives (36%) to the CFUG executive committee, which made the representation of women higher after 2006.

The Hile Jaljale (KA) records show that there was no representation of women at the CFUG General Assembly meetings from 1994 to 1996. However, participation of women in the GA started from 1997, ranging from 1 % to 15%.

In 2006 the participation of women increased sharply to 38%, which is mainly attributed to the changes in CFUG policy[112].

Table 6.8: Participation in General Assembly Meetings by Gender

Year	Total participants	Women		Men	
		Number	%	Number	%
1994	51	-	-	51	100
1995	55	-	-	55	100
1996	239	-	-	239	100
1997	321	48	15	273	85
1998	303	18	6	285	94
1999	168	2	1	166	99
2000	188	4	2	184	98
2001	200	27	14	173	87
2002	-	-	-	-	-
2003	-	-	-	-	-
2004	181	18	10	163	90
2005	182	18	10	164	90
2006	294	112	38	182	62
Total	2182	247	11	1,935	89

Source: Compiled from Hile Jaljale (Ka) CFUG Record

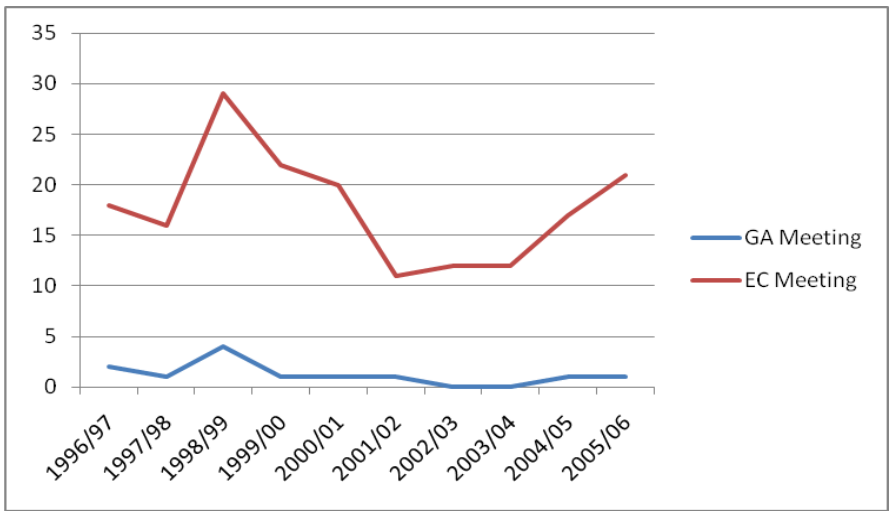
6.4.3.1. Frequency of CFUGs General Assembly (GA) Executive Committee (EC) Meetings

The General Assembly (GA) is an important decision making forum which has a mandate to devise policy and prepare an annual program and budget. It also prepares policy on benefit sharing mechanisms, and reviews past policy and programs. The CFUG executive committee has an important role to play in day-to-day community forest governance. Generally the GA meeting convenes once a year and the EC meets on a monthly basis; however, both meetings can be convened as needed. The data collected during fieldwork indicate that the frequency of GA and EC meetings of Hile Jaljale (KA) was somewhat affected during the conflict. The general assembly meeting could not be held in 2002 and 2003, mainly due to the prohibition order issued by District Administration Office (DAO) on mass gatherings. One of the informants said that before conducting any meeting of the CFUG, they had to obtain permission from the security forces, which was not an easy matter. Because of the worsening law and order situation and displacement of committee members from the village, the

[112] Due to the worsening law and order situation, and prohibition on mass gathering issued by the District Administration Office (DAO), Kavrapalanchok, and the CFUG could not organize the GA meeting in 2002 and 2003.

frequency of EC meetings was seriously affected during 2001-2004; however, after 2004 there was increase in the number of EC meetings (see Figure 6.2).

Figure 6.2: Frequency of CFUG GA and EC Meetings during Pre/Early and late Conflict Periods



Source: Compiled from Hile Jaljale (Ka) CFUG record

6.4.4. Equity, Access and Benefit Sharing Mechanisms

The Hile Jaljale (Ka) CFUG has adopted a policy of positive discrimination in distributing forest products to its members. The provision of special members has been made in the CFUG constitution to identify those households whose profession is directly related to the forest. Without access to forest products and NTFPs those households who are directly dependent on the forest cannot continue their traditional professions, such as making charcoal for blacksmithing, collecting grass and fodder by the landless, and collecting timber and other forest products by those involved in forest-based small enterprises.

The Hile Jaljale (Ka) CFUG made some provisions in its constitution and OP to address these issues. For instance, those belonging to poor, landless and disadvantaged groups receive special concessions in the distribution of forest products. These users receive up to 100 cubic feet of timber free of cost for building a house, while they pay a discounted rate of NRs 30/- per cubic feet if they want to obtain timber beyond this limit. Other users have to pay NRs 105/-

per cu ft for the timber. Some of the equity provisions adopted by Hile Jaljale (Ka) CFUG are listed in the following Table:

Table 6.9: Forest Products Distribution Policy of Hile Jaljale (Ka) CFUG

Forest product	Quantity	*User category*	
		Poor, landless and disadvantaged	Other Users
Fuel wood (green)	As available	NRs. 1 per cu. ft	NRs. 3 per cu. ft
Fuel wood (dead wood)	As available	free	free
Leaf litter	As available	free	free
Timber for house construction	100 cu ft	Free of cost	NRs. 105 per cu ft
Tree branches for agricultural tools	As required	Free of cost	Free of cost
Fire wood and tree stumps for charcoal making	As required	Free for blacksmith	-
Timber for public construction work	As required	-	-
Wood for funeral	As required	Free of cost	Free of cost
Rituals			
Fuel wood for marriage ceremony	10 *bhari*	Free of cost	Free of cost
Fuel wood for *Saptaha* (7 Day religious ritual)	30 *bhari*	Free of cost	Free of cost
Natural disaster			
Timber for construction of house completely destroyed by fire	100 cu. ft	Free of cost	Free of cost
Timber for construction of house partially destroyed by fire	50 cu. ft	Free of cost	Free of cost
Timber for construction of house completely destroyed by landslide/earthquake	100 cu. ft	Free of cost	Free of cost
Timber for construction of house partially destroyed by landslide/earthquake	25 cu. ft	Free of cost	Free of cost

Source; Hile Jaljale (Ka) CF Operational Plan, 2006

In Hile Jaljale (Ka) CFUG, there are five households that are landless, 13 blacksmith households, 14 households depend on tailoring, and 60 households with low income. The Hile Jaljale CFUG has allocated some land inside the community forest to those households that belong to the landless category, for planting income-generating cash crops. For this purpose, a forest nursery has been established to produce seedlings. Empowerment training has been provided to women from poor, landless, and disadvantaged social groups. Women who have received training are now manufacturing briquettes[113] for sale to the market, which has increased their income. Further, the Hile Jaljale (Ka) CFUG coordinated with the Micro Enterprise Development Program (MEDEP) funded by UNDP, and helped to establish an improved furnace to the blacksmiths. The blacksmiths were organized in a group and provided with essential training and modern machinery and equipment to produce agricultural tools on a cooperative

[113] Briquette making has become popular among the CFUG members as a source of additional income for low-income households, especially among women. The Hile Jalajle (Ka) CFUG has provided fuel wood free of cost to prepare charcoal. The CFUG has also provided a simple kit to users to make briquette. Biomass briquettes are considered a renewable source of energy.

basis. The profit generated from the sale of the agricultural tools is now divided among the people involved in running the business. During the fieldwork for this research, the author visited the industry, and blacksmiths reported that as a result of the program promoted and supported by the CFUG, they are now able to earn sufficient cash income through the sale of tools. The CFUG has also constructed drinking water taps in the *damai* (tailor, which belongs to the lower caste) hamlet. The CFUG has also provided employment opportunities to low income groups during the forest thinning operation. The Hile Jaljale CFUG has actively targeted programs to low-income and disadvantaged groups, although it has not been able to implement all its planned pro-poor programs, due to the lack of sufficient funds. To date, most of the CFUG income has been invested in community infrastructure. These investments have been good for the community as a whole, but it is difficult to estimate whether the poor and disadvantaged are equally able to reap the benefits of such investments.

6.4.5. Access to and Distribution of Forest Products during Pre/Early the Emergence of Armed Conflict

According to the operational plan of Hile Jaljale (Ka) CFUG, the forest is open for three months in a year for collecting firewood, from October to December. However, some forest products such as deadwood and leaf litter can be collected free of cost throughout the year. While collecting leaf litter, dead wood and grass, users have to enter the community forest without any weapons or equipment.

During fieldwork the author attended various CFUG meetings and also interacted individually with a number of forest users to observe and discuss the distributional aspects of forest management. It was found that there is no discrimination in the distribution of forest products, as every CFUG member is allowed to collect forest products, especially fuel-wood, fodder, and leaf litter, according to their needs. At present, the need for forest products for every household is satisfied and the availability of forest products outweighs local demand.

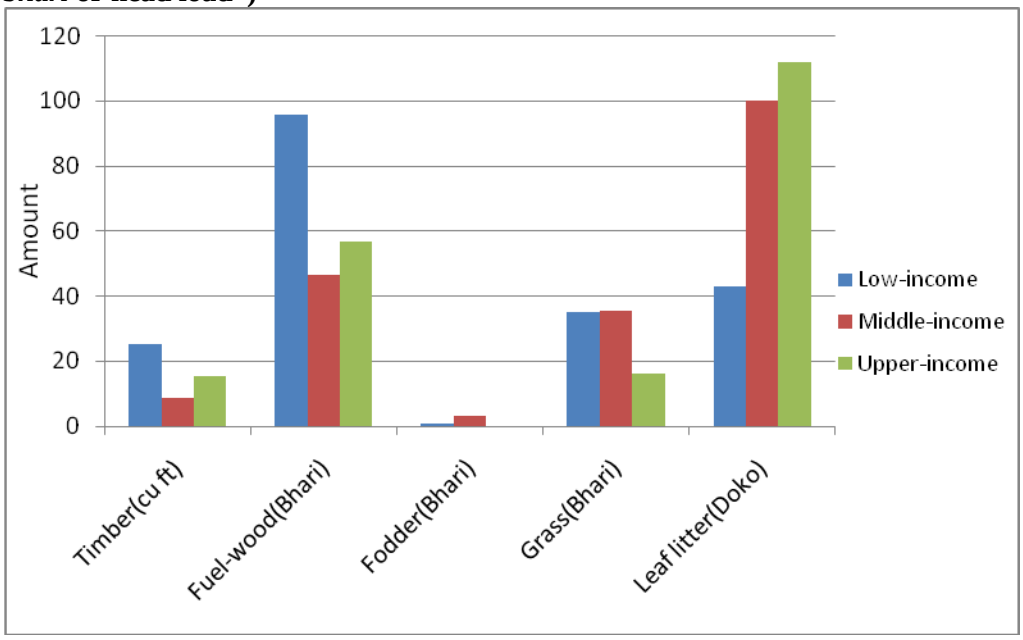
Table 6.10: Mean Annual Forest Product Collection per Household in Hile Jaljale (Ka) CFUG (all income categories)

Product type	Quantity
Timber (cu ft)	16
Fuel-wood (Bhari)[20]	66
Fodder (*Bhar*i)	1
Grass (*Bhari*)	29
Leaf litter (*Doko*)	85

Source: Fieldwork by author, 2008

When the data on forest product collection is further segregated by income category, it was found that the lower-income households have collected more fuel-wood and timber than middle-income and upper-income households. This is in recognition of the fact that the poor have limited land holdings and few trees on their private land, and thus are heavily dependent on community forest for the fuel-wood and timber. The rich and middle class households, on the other hand, have larger land holdings and private forests, and can more readily satisfy their needs for forest products from their own land; particularly during the time of conflict, when there was risk in going to the forest.

Figure 6.3: Average Annual Forest Product Collection by Wealth Category (in *bhari* or head load*)



***** 1 *bhari of* green fuel wood is approximately equivalent to 50 kg; 1 bhari of fodder or grass is equivalent to 25 kg; and 1 *doko* of leaf litter is equivalent to 20 kg.

In contrast, high and middle-income households do collect more leaf litter compared to the poor. This is mainly due to the fact that these groups have more cattle, especially milking buffaloes and cows, than low-income households (see Table 6.2).

6.4.6. Access to Forest Products during the Late Period of Armed Conflict

The survey of 45 households conducted in Hile Jaljale (Ka) CFUG indicates that there was a marked decline in the collection of all types of forest products during the late conflict periods. The lowest decline (25%) was in grass collection, and the highest decline (57%) was in fodder collection. Villagers mentioned that during the intense period of conflict after 2001, users were very cautious while entering the forest. Besides firing exercises by security forces, villagers feared meeting either rebels or the security forces in the forest. As a precaution, villagers entered the forest in small groups, and avoided doing so unless necessary. Before entering the forest, the CFUG executive committee would inform security forces, to avoid unintended incidents and casualties. The armed conflict inevitably affected the frequency of visits to the forest, and reduced the amount of forest products collected besides the timber. The timber from

community forest is used mainly for the construction of houses, thus the demand and use of timber entirely depended on the number of houses constructed by the members of CFUG. It was learned from interviews with FUG members that local people adopted a strategy of "wise use and minimum use" in order to maximize safety and make the best use of forest products whenever they were able to collect them. However, people who had plenty of trees on their own land tended to use forest products from there rather than from the CF.

Table 6.11: Mean Annual Forest Product Collection during Pre/Early and Late Conflict periods, Hile Jaljale (Ka) - All categories

Forest products	Pre/Early conflict	Late conflict	Change (%)
Timber(cu. ft)	14	16	+19
Fuel wood (Bhari)	87	66	- 24
Fodder (Bhari)	3	1	- 57
Grass(Doko)	38	29	-24
Leaf litter (Bhari)	113	85	- 25

Source: Fieldwork, 2008

Predictably, the data indicate that the collection of firewood by low-income groups is higher than that of upper-income and middle-income groups. However, the total amount collected is less than they collected during pre/early conflict period. Upper-income and middle-income groups collected more leaf-litter from the CF than lower-income groups, because of their involvement in dairy enterprises.

Table 6.12: Mean Annual Forest Products Collection in Pre/early and Late Conflict Periods by Income Category

Income group	Timber *(cu ft)*	Fuel wood *(Bhari)*	Fodder *(Bhari)*	Grass *(Doko)*	Leaf litter *(Bhari)*
Low-income					
Pre/Early conflict	16	136	3	46	55
Late conflict	25	96	1	35	43
Change (%)	+55	-30	-62	-24	-21
Middle-income					
Pre/Early conflict	11	57	5	48	136
Late conflict	9	47	3	36	100
Change (%)	-23	-18	-29	-26	-27
Upper-income					
Pre/Early conflict	14	69	3	20	148
Late conflict	15	57	0	16	112
Change (%)	+12	-18	-100	-21	-24

Source: Fieldwork by author, 2008

6.4.7. Income and Expenditure of Hile Jaljale (Ka) CFUG during Pre/Early and late Conflict Periods

Since the introduction of a thinning regime in 1998, the CFUG has been carrying out thinning operations regularly based on its guidelines. The Hile Jaljale (Ka) CFUG earned NRs 3,722,899 (US$50,309.00) from various sources between 1998/99 and 2006/07; of which 97% of the income was obtained from the sale of log timber from these thinning operations (see Table 6.13).

Table 6.13: Income of Hile Jaljale (Ka) CF (1998/99 – 2007/08)

Source of income	Amount(NRS)	% of total income
Sale of timber	3,628,243	97.5
Sale of fuel wood	39,600	1.1
Application fee	2,200	0.1
Prize	3,000	0.1
Membership fee	34,380	0.9
Entry fee	1,000	-
Interest	10,743	0.3
Others	3,733	-
Total income(NRS)	3,722,899	100
Total US$ equivalent	*50,309*	

Source: Fieldwork, 2008(Compiled from the records of Hile Jaljale (Ka) CF)

An assessment of CFUG income for the three years before and after the intensification of conflict in 2001 shows that 57% of income was earned in the prior three year period, dropping to 43% in the three years following intensification of conflict, although the CFUG was able to perform forest management activities throughout the conflict.

Table 6.14: Income of Hile Jaljale (Ka) CFUG during Pre/Early and Late Conflict Periods

Source of income	Pre/Early conflict 1998/99 – 2000/01		Late conflict 2001/02 – 2003/04	
	Amount	% of total	Amount	% of total
Sale of timber	374,798	54	293,930	42
Sale of fuel wood	10,903	2	5,775	1
Application fee	200	0	1,000	0
Prize	3,000	0	-	0
Membership fees	200	0	1,000	0
Entry fees	-	0	-	0
Interest	7,003	1	1,337	0
Others	-	0	-	0
Total	396,104	57	303,042	43

Source: Compiled from the records of Hile Jaljale (Ka) CFUG

6.4.8. Expenditure and Community Development Activities Conducted by Hile Jaljale (Ka) CFUG during Pre/Early and during Late Conflict Periods

The Hile Jaljale (Ka) CFUG implemented various programs to improve the status of the forest, and improve access to basic development infrastructure like education, drinking water and roads. The programs implemented by Hile Jaljale (Ka) CFUG can be categorized into three main areas: forest management[114] and community development[115] and administration (See Table 6.15).

Table 6.15: Expenditure of Hile Jaljale (Ka) CF (1998/99 to 2007/08)

Description	Expenditure (1998/99 – 2007/08) (NRs)	
	Amount	% of total
1. Forest Management		
1.1 Forest protection (watchman)	162,700	4.6
1.2 Forest management	725,135	20.7
1.3 Revision of CFUG operational Plan	41,000	1.2
1.4 Forest Management Training/ Study tour	39,200	1.1
1.5 Nursery construction/ Seedling production	168,000	4.8
1.6 Forest road construction	476,789	13.6
1.7 Establishment of research plot	32,890	0.9
Sub-total	*1,645,714*	*46.9*
2. Community development		
2.1 School construction	998,476	28.4
2.2 Drinking water construction	70,000	2.0
2.3 Rural road construction	410,000	11.7
2.4 Landslide control	100,000	2.9
2.5 Temple construction	5,000	0.1
2.6 Assistance to local club	3,100	0.1
Sub-total	*1,586,576*	*45.2*
3. Administrative cost		
Administrative cost	279,810	8.0
Grand total	3,512,100	100.0

Source: Compiled from the office records of Hile Jaljale (Ka) CFUG

The official records of Hile Jaljale (Ka) show that out of total expenditure, 47%, 45% and 8% respectively has been invested in community forest management, community development and administration, between 1998/99 and 2007/08. It appears that the volume of work carried out during late conflict periods was

[114]Forest management refers to activities such as thinning, pruning, singling, logging, log transportation, forest road construction, fire line construction, nursery establishment, and forest protection activities including providing salaries for forest watchmen.

[115] Community development refers to various community infrastructure-related activities conducted for the benefit of the community as a whole, such as construction of school buildings, drinking water facilities, rural road construction, landslide control and temple construction.

substantially greater than the pre/early-conflict period, as 30% and 70% of the expenditure was made during pre/early and late conflict periods respectively (see Table 6.16). It is apparent from the statistics that the major activities carried out by Hile Jaljale (Ka) CFUG, i.e. forest management and community development, were not negatively affected by the conflict, but rather increased substantially during late conflict periods. There was slight reduction in the income of Hile Jaljale (Ka) CFUG during the late conflict period; however, the CFUG continued its work from their earnings as well as from their savings (see Table 6.16). The main reason according to the forest users for the smooth functioning of CFUG activities is that there was no opposition either from the contending parties or from within the CFUG about implementing community development activities, as such programmes supported the needs of the community and thus had popular support (for example investment in the local school).

Table 6.16: CFUG Expenditure and Community Development Activities during Pre/Early and Late Conflict Periods

Activities	Pre/Early conflict		Late conflict	
	1998/99 – 200/01		2001/02 – 2003/04	
	Amount (NRs)	% of total	Amount (NRs)	% of total
Salary of forest watchman	26,450	4	26,350	4
Forest management	62,800	9	45,500	6
Revision of operational plan	0	0	12,000	2
Forest Management Training/ Study tour	0	0	-	-
Nursery construction/ seedling production	0	0	-	-
Forest road construction	0	0	250,000	34
Establishment of Pate Salla Research Plot	0	0	-	-
Rural road construction	0	0	-	-
Assistance to school	30,000	4	101,000	14
Drinking water scheme	40,000	5	30,000	4
Landslide control	0	0	-	-
Temple construction	0	0	-	-
Donation	0	0	-	-
Assistance to club	0	0	3,000	0
Administrative cost	61,308	8	42,183	6
Total	220,558	30	510,033	70

Source: Compiled from Hile Jaljale (Ka) CFUG Record

6.4.8.1. Community Forest and Access to Education

There was one primary school in ward No. 7 of Ghimire Gaon. For secondary education, children were required to travel to the neighbouring village. In order to increase access to education, the Hile Jaljale CFUG invested substantial amounts of money to construct the building of "Shree Swet Baraha Lower Secondary School". From 2000/01 to 2006/07, Hile Jaljale contributed NRs 989,476/- to the local school, 97% during the late period of intensified conflict.

6.5. Livelihood Outcomes

Rural households are heavily dependent on natural resources to diversify their livelihood portfolio, and the choice of such strategies is dependent upon the natural resources endowment and the level of risk and uncertainty (Scoones 1998, 11). People cope and adapt as a survival response to crisis or disaster (Ellis 2000, 61). Social resilience is an important element under which individuals, societies and communities adapt to changes in the systems (Adger 2000, 347). Livelihood strategies are dynamic and change over time depending upon the opportunities available (Ellis 2000, 40). Coping strategies differ between households, as every household differs in terms of assets, mediated by social factors and external shocks and trends (Ellis 2000, 40). In the context of this research I examine the different strategies adopted by case study households to secure their income, and focus on the role of community forest and resource governing institutions (CFUG in this case) in mediating and coping with the effects of conflict at local level.

6.5.1. Household Income in Hile Jaljale (Ka) CFUG

Seasonal migration in search of jobs to supplement the household income has become a regular phenomenon in the hills of Nepal, especially among low-income households. In the Ghimire Gaon of the Hile Jaljale (KA), most households were engaged in commercial vegetable farming and dairying, although during late conflict periods there was reduction in the opportunities of wage labouring in the villages. The major sources of household income are

vegetable farming; cereal crops and dairying (see Table 6.17). Most households are engaged in commercial vegetable farming and rearing buffalo and cows for producing milk. When the consumptive value of forest products is calculated it shows that community forestry provides 9% of the total household income.

Table 6.17: Mean Annual Household Income in Hile Jaljale (Ka) CFUG (all category)

Source of income	Income(NRs)	% of total income
Vegetable farming	23,133	20.8
Cereal crops	19,089	17.2
Dairying	18,578	16.7
Salaries/waged work (permanent)	12,444	11.2
Forest products	9,695	8.7
Overseas employment	6,444	5.8
Small animals (goal/sheep)	6,393	5.8
Off-farm wages (casual)	6,056	5.5
Self employment	5,800	5.2
On-farm wages (casual)	2,949	2.7
Swine/pig	422	0.4
Poultry	78	0.1
Total income	*111,081*	100.0

Source: Field survey by author, 2008

When the data are further analysed, they show a distinct picture of household income among different income categories. The major sources of household income for the low-income households surveyed are off-farm wages, forest products and vegetable farming. For middle-income households, vegetable farming, dairying and agriculture seems to be the three major sources of cash income, while upper-income households' major three sources of income are vegetables, agriculture and salaried employment (see Table 6.18).

Table 6.18: Mean Household Income (NRs) by Income Category, Hile Jaljale CFUG

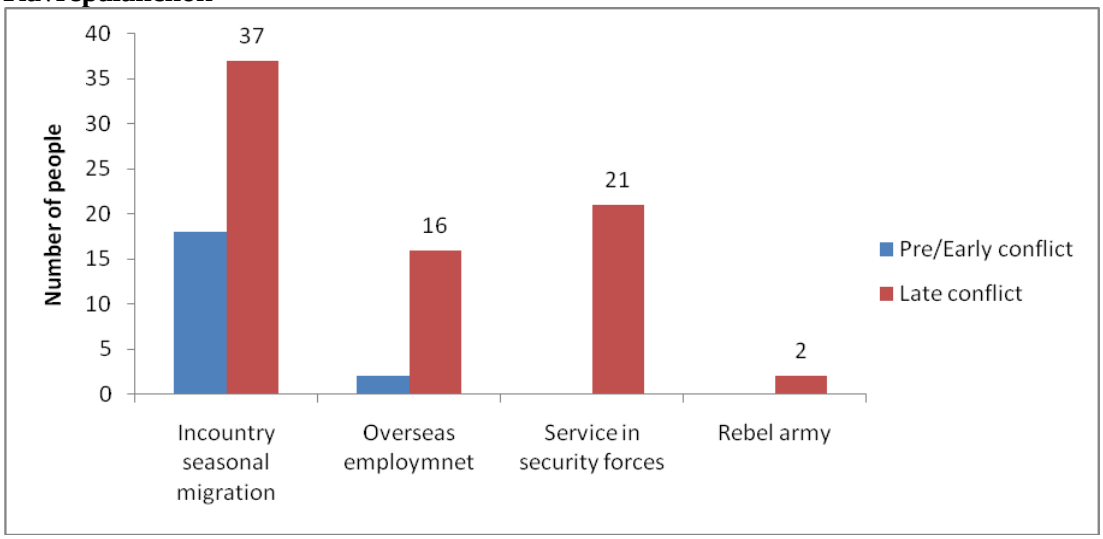
Source of income	Low-income		Middle-income		Upper-income	
	Amount	*%*	*Amount*	*%*	*Amount*	*%*
Cereal crops	4,600	8	17,800	19.6	34,867	19.1
Vegetable farming	6,933	11.6	21,267	23.4	41,200	22.5
Dairying	4,133	6.9	20,733	22.9	30,867	16.9
Small animals (goat/sheep)	3,680	6.2	4,933	5.4	10,567	5.8
Swine/pig	1,267	2.1	0	0.0	0	0.0
Poultry	133	0.2	0	0.0	100	0.1
Salaries/waged work (permanent))	4,533	7.6	0	0.0	32,800	17.9
Overseas employment	0	0.0	9,333	10.3	10,000	5.5
Self Employment	5,000	8.4	0	0.0	12,400	6.8
On-farm wages (casual)	4,947	8.3	3,000	3.3	900	0.5
Off-farm wages (casual)	13,367	22.4	4,133	4.6	667	0.4
Forest products	10,998	18.5	9,492	10.5	8,594	4.7
Total	59,592	100.0	90,692	100	182,960	100

Source: Field Survey by author, 2008

The above statistics clearly show that forests products occupy a significant source of income for low-income households (14.4%). The table indicates that as household income increases, forest dependence decreases.

The seasonal migration from the village to the capital city and to overseas employment increased sharply during the intensified late conflict periods. Moreover, as young people were attracted towards the rebel groups, security forces also recruited numbers of youths into national army and police forces, which provided additional income to households. Some people migrated to capital cities and started small shops, and many other worked in restaurants, hotels and brick kilns as a strategy to keep away from the violence. Data indicate that during the late conflict periods, seasonal migration increased by 105%, and overseas employment by 700%. Moreover, 21 youths from the community were recruited into the security forces, and 2 people joined the rebel forces during this period.

Figure 6.4: Employment and Seasonal Migration in Hile Jaljale (Ka) CFUG, Kavrepalanchok



Source: Fieldwork by author 2008

6.5.1.1. Household Income during Pre/Early and late Conflict Periods

Data were also collected to compare household income during pre/early and late conflict periods. The data show that the overall household income of low-income, middle-income and upper-income households increased by 3.16%, 2.3% and 6.6% respectively during late conflict periods. There was a reduction in income from the agriculture sector, especially from the sale of vegetables and milk among middle and upper-income households. During interviews, farmers said that due to the frequent strikes and blockades organized by the Maoist rebels, it was difficult to send agricultural produce to market. Farmers especially from middle and upper-income categories who had invested in commercial vegetable farming and milking cows and buffalo lost income from these perishable products during the late conflict periods. Overseas employment emerged as a new source of income for middle and upper-income households, which contributed substantially to the increase in household income.

The data also confirm that all categories of people became more engaged in off-farm activities during the late conflict periods.

Table 6.19: Mean Annual Household Income in Hile Jaljale (Ka) CFUG, Kavrepalanchok

Income source	Low income			Middle income			High income		
	Pre/Early conflict	Late conflict	Change (%)	Pre/Early conflict	Late conflict	Change (%)	Pre/Early conflict	Late conflict	Change (%)
Cereal crops	5,040	4,600	-8.7	17,913	17,800	-0.6	34,933	34,867	-0.2
Vegetable farming	8,833	6,933	-21.5	27,400	21,267	-22.4	44,467	41,200	-7.4
Dairying	2,467	4,133	+67.6	22,200	20,733	-6.6	36,400	30,867	-15.2
Small animals (sheep/goat)	3,500	3,680	+5.1	5,233	4,933	-5.7	11,267	10,567	-6.2
Pig	0	1,267	1,260.7	0	0	-	0	0	-
Poultry	233	133	-42.9	0	0	-	133	100	-25.0
Salaries/waged work (permanent)	0	4,533	-	0	0	-	18,800	32,800	+74.5
Overseas employment	0	0	-	0	9,333	+9,333	6,667	10,000	+50.0
Self Employment	8,333	5,000	-40.0	0	0	-	9,533	12,400	+30.1
On-farm wages (casual)	5,500	4,947	-10.1	3,233	3,000	-7.2	1,033	900	-12.9
Off-farm (casual)	13,200	13,367	+1.3	3,433	4,133	+20.4	333	667	+100
Total	47,107	48,593	+3.2	79,413	81,200	+2.3	163,567	174,367	+6.6

Source: Field survey by author, 2008

6.5.2. Contribution of Community Forest to Household Income

Community forest not only provides much needed fire-wood, fodder, timber and a range of other environmental services to the local community, it also generates employment at the local level. At present however, most CFUGs lack sufficient scientific forest management to be able to maximize benefits. A recent study suggests that the conservative thinning practices adopted by most of the CFUGs in Sindhupalchok and Kavrepalanchok districts resulted in overstocking and reduction in volume growth of the forests, which may have resulted in the loss in potential income of US$ 200 per hectare per annum (Hunt, Dangal, and Shrestha 2001, 11). Although, Hile Jaljale (Ka) CF had been carrying out shrub management,[116] scientific forest management was lacking. Encouraged by the

[116] Shrub management practice refers to the removal of unproductive and economically invaluable plants from community forest, in order to promote the growth and productivity of the forest and to enhance the growth of broadleaf species.

forest management practices applied in Chaubas since the establishment of the community saw-mill, the Hile Jaljale (Ka) CF carried out thinning practices for the first time in 1998, and the log timber generated from thinning was sold in the market.

6.5.2.1. Community Forest Based Employment at Hile Jaljale (Ka) CFUG

Before the inception of the community forestry program in the village, people of Hile Jaljale had to go outside of the village, particularly to Banepa or Kathmandu, in search of additional employment; as little was available in the village. However, after the implementation of silvicultural practices in 1998, many villagers were able to get 'seasonal work as paid a laborer', which has improved local employment opportunities and household income. From 1998/99 to 2007/08, the total employment generated from community forestry related work in the Hile Jaljale (Ka) CFUG was found to be 15,832 man-days, an average of 1,583 person-days annually (see table 6.21)[117].

Table 6.20: Employment Opportunity Generated by Hile Jaljale CF (1998/99 – 2007/08)

Activities	Employment (Person-days)	Mean annual employment	% of total
Forest management	11,788	1,179	74
Forest based enterprise	1,200	120	8
Community development	2,844	284	18
Total	15,832	1,583	100

Source: Field data 2008 by author

It is interesting to note that although the investment in forest management and community development activities is almost equal (45%), the employment opportunities generated by the two sectors is completely different (refer Table 6.21). With the investment of almost the same amount of money, the forest management activities and forest-based enterprises generated 82% of the total employment opportunities, while community development activities generated

[117] The employment generated from Hile Jaljale (Ka) CFUG has been calculated on the basis of money that the CFUG paid to forest users during implementation of various forest management and community development activities. The 'man' days are calculated based on the total amount paid directly to forest users divided by the daily wage rate of that particular year. However, the employment generated indirectly from forest-based activities, mainly agriculture, livestock, and other livelihoods related work, is beyond the scope of this research.

only 18 per cent. This is mainly due to the fact that the forest management activity involves labor-intensive work that does not require purchase of materials from the market. Community development work is mainly infrastructure, requiring at least half of the investment for purchase of construction materials and leaving only about 25% of funds to hire local workers. These statistics suggest that poorer people will benefit more through an investment in forest management activities rather than in infrastructure, at least in the short term.

6.5.2.2. Employment Opportunity from Community Forest during Pre/Early and late Conflict Periods

Data show that the Hile Jaljale CFUG created 1,713 mean annual person-days of employment before the intensified conflict, while during late conflict periods the mean annual employment rose to 7,282 person-days, which is three times more than the pre/early conflict period. These statistics demonstrate that community based forest governance in Hile Jaljale (Ka) CFUG was functional and able to carry out forest management as well as community development activities even during late conflict periods. Indeed, there was an increase in employment in all three sectors (see table 6.21).

Table 6.21: Employment Opportunities Generated from CF at Hile Jaljale (Ka) during Pre/ Early and Late Conflict Periods

Activities	Pre/Early conflict (1998/99-2000/01)		Late conflict periods (2001/02 – 2003/04)	
	Total employment (person-days)	Mean annual employment (person-days)	Total employment (person-days)	Mean annual employment (person-days)
Forest management	2,210	737	9,578	3,281
Forest based enterprise[118]	360	120	720	360
Community development	2,570	857	2,494	3,641
Total	5,140	1,713	12,792	7,282

Source: Compiled and calculated from Hile Jaljale (Ka) CFUG record

The economic value of community forest resources have never been estimated in the formal sector, nevertheless, they directly contribute to the support of the

[118] Forest based enterprise refers to employment generated from CF based employment such as the small scale furniture factory in the village, briquette making and blacksmithing.

farming system and play an important role in the livelihoods of local people. During the course of this study, consumptive value of community forest resources have been calculated in economic terms based on the quantity of forest products used by each household annually from CF and the local market value of such products.

Table 6.22: Consumptive Value of Forest Products (NRs) by Income Category during Pre/Early and Late Conflict Periods at Hile Jaljale (Ka) CFUG [119]

Forest Products	Low-income			Middle-income			Upper-income		
	Pre/Early (1998/99-2000/01)	Late conflict (2001/02-2003/04)		Pre/Early (1998/99-2000/01))	Late conflict (2001/02-2003/04)		Pre/Early (1998/99-2000/01)	Late conflict (2001/02-2003/04)	
	Amount	Amount	Dif (%)	Amount	Amount	Dif (%)	Amount	Amount	Dif (%)
Timber	1,715	2,660	+55	1,187	910	-23	-	-	-
Fuel wood	6,800	4,784	-30	2,834	2,327	-18	3,467	2,834	-18
Fodder	120	45	-62	210	150	-29	150	-	-100
Grass	2,070	1,575	-24	2,160	1,605	-26	915	720	-21
Leaf litter	2,460	1,935	-21	6,135	4,500	-27	6,660	5,040	-24
Total	13,165	10,998	-16	12,525	9,492	-24	11,191	8,594	-23

Source: Fieldwork by Author 2008

The statistics above show that the gross value of forest products collected from CF is slightly higher among middle-income and upper-income households as compared to low-income households. However, the percentage of the contribution of CF to household income is higher among low-income households as compared to middle and upper-income households (see Table 5.18). Data indicate that the household consumption value of forest products decreased among all income groups during the late conflict periods, except for timber. However, respondents claimed that the decrease in the amount of forest products collection during late conflict periods did not have serious negative impacts on their households.

[119] The income from forest products was calculated based on the work of Gregerson et al. (1995) and Murthy et al. (2005), where consumptive value of forest products in each CFUG was calculated based on per unit current local price of the particular forest products multiplied by the amount of forests products used by the households. The consumptive value of forest products used by households in Hile Jaljale (Ka) CFUG was calculated based on the local value of the particular forest products. Based on discussions with CFUG general and committee members, the price of the forest products was fixed at the rate of NRs 105/- per cu ft of timber and NRs. 50/- for a *bhari* of fuel-wood and NRs. 45/- for fodder and leaf-litter respectively.

6.6. Environmental Sustainability Outcomes of Hile-Jaljale (Ka) CFUG

Historically, development models ignored the effect of economic activity on the environment, which produces serious environmental problems (Weaver, Rock, and Kusterer 1997, 237). As environmental resources are fundamental for human survival and well-being, the main aim of promoting environmental sustainability is to sustain the life-support system. In simplest terms, environmental sustainability is defined as the "maintenance of natural capital" (Goodland 1995, 10). An attempt was made to assess the environmental sustainability outcomes associated with community forestry programs, including the condition of forests, water regimes, wildlife, and a range of other benefits from these environmental resources. Villagers said that after the introduction of the community forestry program in Hile Jaljale (Ka) CFUG there was marked improvement in the quality of the forest. The local environment, watershed condition, and biodiversity were also reported by villagers to have improved. After the improvement in the status of the forest, the incidence of floods and landslides was largely reduced. There has also been an improvement in environmental services such as water for drinking and irrigation; availability of medicinal plants; and fuel-wood for cooking and construction timber. The forest, which was degraded 30 years ago, is now in a very good condition. Improvement in forest condition is also supported by the recent inventory prepared under the joint collaboration of the Hile Jaljale community, Nepal-Australia Community Resource Management and Livelihoods Project (NACRMLP) and Department of Forest staff.

The inventory, undertaken as part of the preparation of the new Operational Plan in 2006, shows the status of trees in the community forest to be as follows:

Table 6.23: Number of Trees per hectare in the Hile Jaljale (Ka) Community Forest

Name of species	10-20 cm diameter	20-30 cm diameter	above 30 cm diameter	Total trees	Annual increment (cu feet)
Pinus patula	139	105	48	292	95
Others Chilaune-*Schima wallichii*, Kafal- *Myrica esculanta* Mauwa- *Engelhardtia spicata* Aangeri- *Lyonia ovalifolia*	221	30	23	274	138
Total	360	135	71	566	233

Source: Hile Jaljale (Ka) CFUG Operational Plan, 2006

Moreover, according to the villagers, the regeneration of broadleaf species has improved soil condition and the micro-climate of the forests. The CFUG committee members said that they plan to replace the existing pine forest with broadleaf species within the next 15-20 years, by adopting a gradual thinning regime. The regeneration status of the forest is as follows:

Table 6.24: Status of Regeneration in Hile Jaljale (Ka) CFUG

Local name	Botanical name	No of young and mature saplings /ha	
		Young	Mature
Paiyu	*Prunus cerasoides*	300	300
Katus (Musure)	*Castanopsis tribuloids*	166	66
Kafal	*Myrica esculenta*	700	733
Setikath	*Myrsine capitellata*	5,100	1,000
Kalikath	*Myrsine semiserrata*	1,667	-
Chilaune	*Schima wallichii*	233	200
Hinwa	*Eurya cerasifolia*	966	800
Gurans	*Rhododendron arboreum*	466	166
Others	-	7,550	8,600
Total		17,148	11,865

Source: (Hile Jaljale (Ka) CFUG 2001)

Community-based co-management of the forest not only improved the forest condition but also brought marked changes in wildlife conservation. Local residents in Hile Jaljale reported that after initiation of the CF program and

conservation of forest, many species of wild animals and birds have migrated into the community forest. Wildlife sightings may reflect the improvement in the wildlife habitat (see table 6.25).

Table 6.25: List of Wild life Sighted by Informants at Hile Jaljale (Ka) CFUG

Vernacular name	English name	Scientific name
Wild animals		
Bandel	Wild boar	*Sus scrofa*
Pate Bagh	Tiger	*Panthera tigris tigris*
Chituwa	Leopard	*Panthera pardus*
Dumsi	Porcupine	*Hystrix indica*
Salak	Chinese pangolin	*Manis pantadactyla*
Kharayo	Hispid hare	*Caprolagus hispidus*
Shyal	Jackal	*Canis aurevs*
Chittal	Spotted dear	*Axix axis*
Ratuwa mirga	Barking Deer	*Muntiacus muntaijak*
Lokharke	Squirrels	*Funambulus spp.*
Malsapro	Yellow-throated Marten	*Mortes flarigula*
Banmuso	-	-
Sun Gohoro	Golden Monitor Lizard	*Varanus favescens*
Sarpa	Snake	-
Birds		
kalij	kalij pheasant	*L. l. Leucomelanos*
Titra	Hill-partridge	*Arborophila torqueola*
Lampuchree	Yellow billed Blue Magpie	*Urocissa flavirostris*
Dhukur	Oriental Turtle Dove	*Streptoplia orentalis*
Jureli	Red vented bubbul	Pycnonotus jocosus
Suga	Red Breasted Parakeet	Psittacula alexandri
Dhobichara	Oriental Magpie Robin	Copsychus saularis
Chyakhura	Chukur Patridge	Alectoris graeca
Baj	Falcon	Falcon peregrines
Baudai chari	-	-
Gauthali	House Swift	*Apus affinis*
Kalchaude	-	-
Malichara	-	-

Source: Fieldwork by author, 2008

Beside these reported benefits, some negative consequences of armed conflict for the local environment have been observed by villagers during late conflict periods. A number of trees were removed from the watershed by the security forces. Regular firing exercises and testing of explosives carried out by the Nepalese army may have had a negative effect on some wildlife. Small localized landslides were reported due to the vibration resulting from firing and explosives. Water sources inside the forest, a prime source of drinking water for

the villagers, were polluted by debris from explosives and bullets resulting from military exercises, although scientific assessment of this pollution is lacking.

6.7 Conclusion

The Hile Jaljale (Ka) forest has undergone three management regimes. In the beginning, when the forest was granted as *birta*, management was local, as descendants of *birta* holders applied the traditional forest management system. The forest was in good condition during that time. However, the status of the forest became severely degraded, partly due to natural disasters and to changes in the land tenure policy of the government, particularly after the abolition of *birta* tenure. The sudden institutional vacuum created by the abolition of *birta* tenure induced the absence of local property rights and breakdown of the traditional management and authority system. From that point, the forest was converted to open access, without proper management. Due to unregulated use and over exploitation, eventually the forest became seriously degraded. As a consequence there was a severe shortage of essential forest products, especially fuel-wood, fodder and timber; and villagers were required to walk for hours to collect fuel-wood and fodder. The crisis of forest degradation was addressed by the Nepalese government initiating an afforestation program with assistance from the World Bank and the Australian government and with active participation by the local community in Hile Jaljale.

After replanting, villagers were actively involved in the collective management of forest resources under their own local rules and regulations. With the formulation of the community forest policy and regulations by the government, the Hile Jaljale (Ka) forest was formally handed over to the Hile Jaljale (Ka) community on January 1991 for community-based co-management.

There was a general consensus among Hile Jaljale respondents that after the introduction of community based forest management, the bio-physical environment of the forest improved enormously. The forest had become successful in satisfying basic needs for forest products while conserving wildlife and environmental services from the forest. Community harvesting and selling of

timber, based on the CFUG operational plan, generated a substantial amount of money. This indicates that community based forest management has proved viable and successful for the sustainable management of forest resources in Hile Jaljale. However, there remains a concern over the participation of women and other socio-economically disadvantaged sections of the community in the decision making process and benefit sharing. The research indicates that to date, the management of Hile Jaljale (Ka) CFUG is still in the hands of local elites and socio-economically advantaged people. In line with the recently prepared second generation operational plan, four women representatives have been included in the CFUG executive committee since 2006; however, their active participation and influence on the decision making process remains to be seen.

The Hile Jalajle CFUG has invested a substantial amount of money in development of community infrastructure, mainly in education, drinking water facilities, and rural road construction. The benefit of these investments to socio-economically disadvantaged sections of the community is open to question. Because of low socio-economic status and education, and limited capital at their disposal, these groups are less able to reap the benefits of such development interventions on a par with socio-economically privileged members. Unless the socio-economic condition of disadvantaged people is enhanced through investment in pro-poor programs and capacity building, their real participation, control over decision making, and access to natural resources cannot be secured. Some positive initiatives have been undertaken by the Hile Jalajle (Ka) CFUG. It has adopted a policy of positive discrimination in distributing forest products targeted to poor, landless and disadvantaged groups. However, it is clear that such arrangements are insufficient to enhance the economic condition of the people from lower socio-economic strata. There is a need to invest more income in programs that could substantially raise the socio-economic condition of the rural poor.

This study suggests that the Hile Jaljale (Ka) CFUG has significant potential for generating income from the sale of timber; however, the CFUG does not have the technical and managerial capability to do so on a sustainable basis. The limited marketing experience of the CFUG has meant that the benefit of the

timber business is reaped mostly by contractors and businessmen from outside. The community will increase the benefits from such activities if community members are trained in semi-processing of forest products before going to market, and also through better promotion of forest-based enterprises. It is possible to enhance the local development and poverty alleviation capacities of the Hile Jalajle (Ka) community through the scientific management of community forest resources. However, the sustainability of such initiatives entirely depends on the practice of good forest governance.

With the emergence of armed conflict in Nepal, the law and order situation deteriorated and there was a crisis of governance. The community forestry program witnessed several impacts during this period. The forestry infrastructure of the District Forest Office, Kavrepalanchok was largely destroyed and the forestry technicians working at the village level were displaced from local Range Posts. Part of the Hile Jaljale (Ka) Community Forest was declared an army training zone by the government, affecting planned forest management activities and access to forest products. However, through mediation from FECOFUN, the CFUG was able to carry out its forest management activities more or less as outlined in the operational plan, developing working arrangements through regular contact and coordination with security forces.

During late conflict periods, the frequency of visits to the forest and the amount of forest products collected were reduced. However, the CFUG members were able to fulfill their basic needs for forest products by the strategy they adopted of "wise use and minimum use". The Hile Jalajle (Ka) CFUG was actually able to increase forest management and community development activities during the late conflict periods, accompanied by an increase in employment generated. Even during such difficult times, Hile Jaljale (Ka) CFUG maintained control over their forest and there was no encroachment or illegal activity from outsiders (other than combatants).

The most interesting thing that came out of this study is that during the period of the Maoist insurgency, although governmental and non-governmental agencies were paralyzed, the Hile Jaljale (Ka) CFUG continued its activities. Perhaps

surprisingly, government intervention and Maoist pressure did not change basic CFUG governance arrangements. Although the Department of Forest was largely destroyed and could not function effectively during late conflict periods, community-based forest governance in Hile Jaljale (Ka) remained stable. Due to the participatory and heterarchical structure of the community-based co-management model adopted by the Hile Jalajle CFUG, they were successful in carrying out forest management activities despite difficulties created by the conflict. The Hile Jalajle (Ka) case study illustrates the community resilience and bargaining power which can be fostered by the experience of a community-based co-management approach.

Chapter 7

Case Study Three: Lakuri Rukh Bhulbhule Community Forest User Group (CFUG)

7.1. Introduction

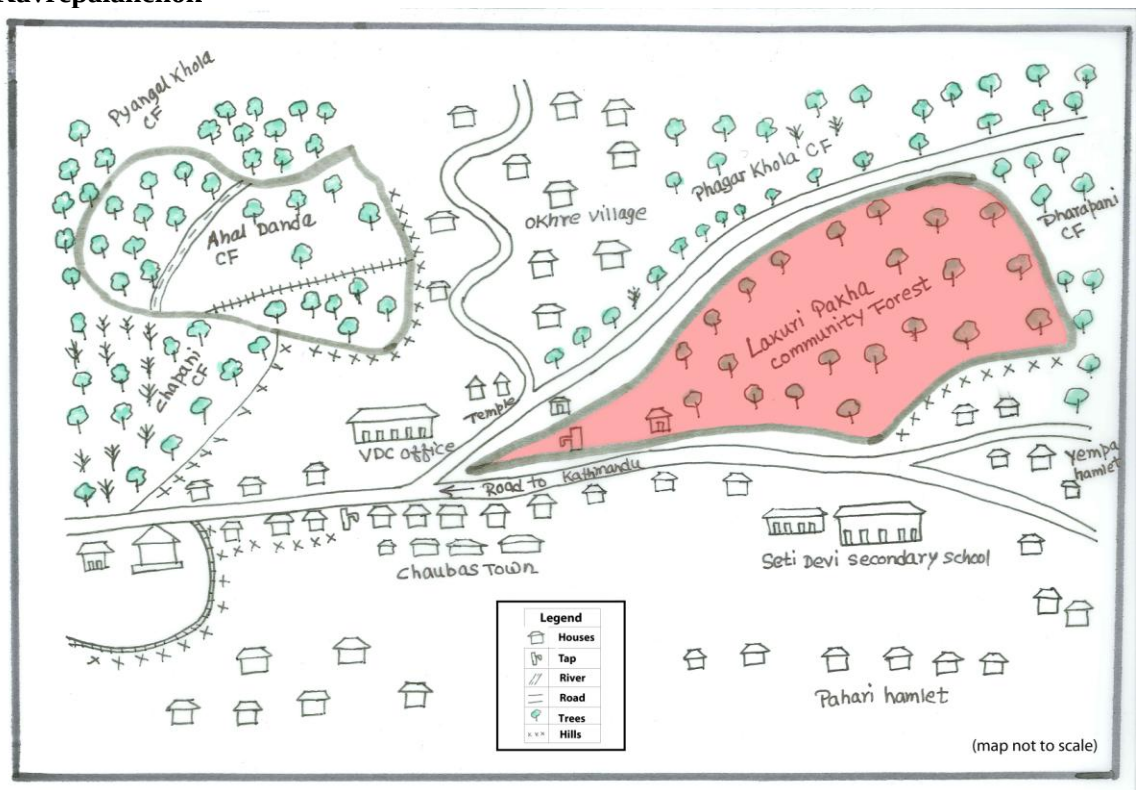
Among the three case studies selected for this study, the first case study site i.e. Sharada Devi CFUG was not seriously affected by either of the contending parties; the Hile Jaljale (Ka) CFUG was under the influence of Nepalese security forces, while the Lakuri Rukh CFUG, the subject of this case study, came under the influence of the Maoist insurgents during the late conflict periods. Among the three case study sites, Lakuri Rukh is located farthest from the district capital and is considered the most remote.

The Lakuri Rukh Community Forest User Group (CFUG) is located in Chaubas Village Development Committee (VDC) ward numbers 1, 3, and 5. According to the census of 2001, the Chaubas VDC has a total population of 1690, dominated by the Chhetri caste (33.18%), and Tamang (27. 38%) and Pahari (26.97%) ethnic minority groups[120]. The Chaubas Village Development Committee (VDC) is situated across the Sun Koshi River, about 75 kilometers from Kathmandu, along the northern-most part of Kavrepalanchok district. It is situated at an altitude of 2,100 meters above sea level. Until 1995, people walked 6 hours uphill from the Kodari Highway at Dolalghat to reach Chaubas. In 1995, an 18 kilometer fair weather road was built from across Sun Koshi River to Chaubas. There is a bus service from Kathmandu and Banepa (the business centre of Kavrepalanchok); however, the service is frequently interrupted during the monsoon season. Most of the area of Chaubas is sloping terrain. It occupies 1,035 ha of land, of which 60% is cultivated. The Chaubas *Danda* (ridge) divides the village into two halves on a north-south axis (Malla and Griffin, 1999). Cereal crops and animal husbandry are the main sources of livelihood for

[120] According to the prevailing Nepalese caste system practiced in the society, *Bramhan* and *Chhetri* belongs to higher caste, *Damai, Kami, Sarki* belongs to lower caste and *Tamang, Gurung, Newar, Pahari, Magar* belongs to ethnic groups.

more than 90% of the residents. Other sources of livelihood include wage labor, small business, overseas employment, and the salaries/waged work (permanent). In 1995 at least one member from each family of low-income (poorer) groups in Chaubas was working in Kathmandu as wage laborer (Jackson, et al, 1995: 6). There are 15 CFUGs in total under this Village Development Committee (VDC).

Map 7.1: Participatory Map of Lakuri Rukh Community Forest, Chaubas, Kavrepalanchok



Source: Map prepared by author with the help of CFUG Members

7.1.1. Bio-physical Characteristics of Lakuri Rukh Devi Community Forest

The Lakuri Rukh community forest is situated above 2100 meter above sea level. The forest is mainly composed of pine species, and the age of the forest is 23 years with a total area of 63 ha.

Table 7.1: Bio-physical Characteristics of Lakuri Rukh CFUG at Chaubas

Description	Number
Location of forest	Chaubas V. D.C. Ward No. 1, 2, 5 Kavrepalanchok
Total area of community forest (ha.)	63 ha
Community forest blocks	5 blocks
Aspect	North – East and South - West
Slope (degrees)	10 – 45
Age of forest (years)	23 years
Crown cover	30-35%
Average altitude (meters) above sea level	2100
Major forest species	*Pinus patula, Pinus walichiana, Alnus nepalensis, Michelia champaca*

Source: (Lakuri Rukh CFUG 2006)

7.2. Socio-economic Profile of the Lakuri Rukh Bhulbhule CFUG

A total of 73 households from four major settlements – *Okhre, Chaubas Bazar, Aekya* and *Kaule* – comprise the Lakuri Rukh Community Forest User Group (CFUG). Membership is composed of four major ethno-caste groups, of which 68% belong to ethnic groups, 24% belongs to higher castes and 7% belongs to a lower caste.

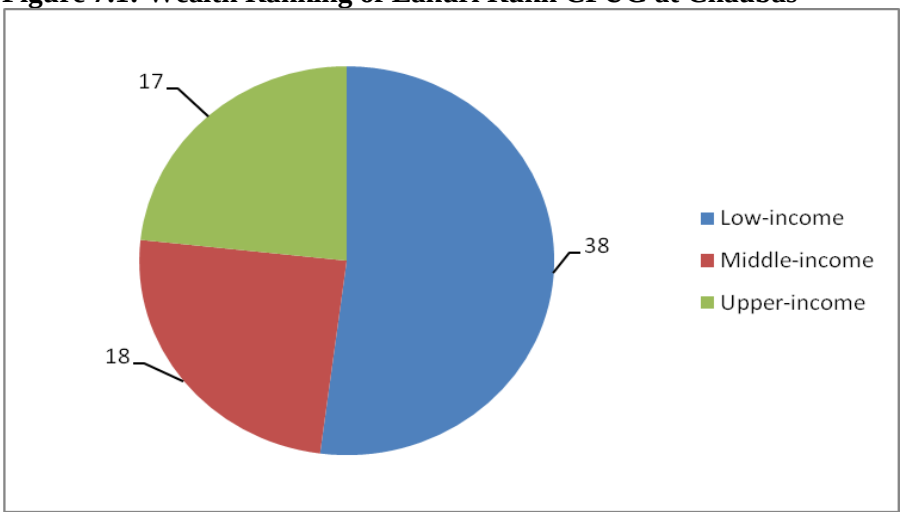
Table 7.2: Major Caste and Ethnic Composition of Lakuri Rukh CFUG, Chaubas

Caste	Number of households	Population	% of total population
Higher castes			
Brahman/Chhetri	16	107	25
Ethnic groups			
Pahari	34	189	43
Tamang	14	111	25
Lower caste			
Sarki/Kami	9	31	7
Total	73	438	100

Source: Field Survey by author, 2008

The result of the participatory wealth ranking in Lakuri Rukh CFUG indicates that more than half of the total households fall into the low-income group, and only one-fifth of households belong to upper-income groups. 88% of households from the lower caste and 62% from the ethnic groups are classified as low-income, and only 7% of high caste households fall into the low-income category; indicating a high correlation between traditional social status groups and income.

Figure 7.1: Wealth Ranking of Lakuri Rukh CFUG at Chaubas



Source: Fieldwork by author, 2008

7.2.1. Land Holding

Land is a precious resource for the livelihoods of people in the hills of Nepal. The size of the land holding is continuously diminishing due to ever rising population growth and subdivision through inheritance among sons[121]. The household survey indicates that land holdings in Lakuri Rukh CFUG are very small, especially of *khet* (irrigated land).

[121] Previously, according to the civil code, fathers were legally obligated to leave equal portions of land to each son. Daughters do not inherit paternal property unless they remain unmarried past the age of thirty-five. Although ideally sons manage their father's land together as part of a joint family, familial land tends to be divided, with holdings diminishing in every generation. However, after the 11th amendment of 1963 civil code, which came into effect from September 27, 2002, women now can claim their parental property by birth. The amendment provides equal rights for a married woman to her husband's property immediately after marriage. There is no age restriction, whereas previously a woman could claim her husband's property only after 15 years of marriage.

Table 7.3: Mean Land Holding per Household in Lakuri Rukh CFUG (all categories)

Category of land	Area(*ropani*)
Irrigated *Khet*	0.8
Barvi(upland)	12.4
Kharbari[122]	7.6

Source: Field Survey author, 2008

The mean land holding per household for low-income groups is 9.87 *ropani*[123], while it is 16.07 and 37.27 *ropanis* for middle-income and upper-income households respectively. Low-income households do not possess irrigated land and have limited areas of *kharbari*, while middle and upper income groups possess good fertile land with larger areas of *kharbari.*

Table 7.4: Mean Land Holding by Income Category in Lakuri Rukh Bhulbhule CFUG (sample survey)

Land holding (*ropani*)	Low-income	Middle-income	Upper-income
Mean land holdings	9.9	16.1	37.3
Irrigated land (*Khet*)	-	0.5	1.8
Rain-fed agricultural land	-	-	0.9
Upland *(Bari)*	7.0	10.5	19.8
Kharbari	2.9	5.1	14.8

Source: Author field survey, 2008

7.2.2. Basic Household Characteristics

The survey also shows that household size, age of household head, literacy and basic facilities are directly related to household income. There is a sharp difference in the total household income between groups. The annual income of low-income households is US$ 352, which is 37% and 21% of that of middle-income and upper-income households respectively.

[122] *Kharbari* is private forest land designated to supplement household needs for grass, fuel-wood and timber.
[123] A traditional unit of land area in South Asia, one *ropani* equals 500 square meters, or .05 hectare.

Table 7.5: Household Characteristics by Income-wealth Category in Lakuri Rukh CFUG

Household characteristics (mean values from sample)	Low-income	Middle-income	Upper-income
Household size (no.)	5	6	7
Annual household income (NRs)	26,061	68,793	121,707
Annual household income (US$)[124]	352	930	1,645
Age of household head (yrs)	39	43	59
Education of household head			
Overall literacy rate (%)	*33*	*73*	*67*
Primary education (%)	*33*	*67*	*40*
Secondary education (%)	-	*7*	*13*
Higher secondary education (%)	-	-	*13*
Livestock holding (mean no.)			
Buffalo	0.4	0.7	0.8
Cow	0.5	0.5	0.6
Ox	0.4	0.4	0.1
Goat/Sheep	4.3	4.8	6.7
Pig	0.2	0.8	-
Chicken	6.9	10.1	11.5
Household with:			
Electricity (%)	-	*13(solar)*	*27(solar)*
Piped water (%)	*100*	*87*	*100*
Telephone (%)	*20*	*20*	*47*
Audiovisual owned (%)			
Radio (%)	*87*	*100*	*100*
Television (%)	-	*13*	*40*
Source of household energy (%)			
Fuel-wood	*100*	*100*	*93*
LPG Gas	-	-	*7*

Source: Author, Field survey, 2008

7.3. Historical Background of Lakuri Rukh Community Forest

It is known from the oldest person in the village, Mr. Man Bahadur Thapa (102 years) that the southern aspect of the Chaubas hill was completely denuded and there were forests in the northern aspect for as long as he can remember. He estimates that the southern belt of the Chaubas Danda forest was deforested probably 100-150 years ago. It can be speculated that the Chaubas hill might have been deforested due to shifting cultivation, grazing and felling for timber. The degraded forest area of Chaubas Danda was heavily used for grazing until 1978. However, on the northern aspect of Chaubas the forest was in good

[124] 1 US$ equivalent to Nepali Rupees(NRS) 74

condition. When the government enacted the 1957 Private Forest Nationalization Act, the forests fell entirely under the control of the state, and access to the forest was severely restricted. After promulgation of the 1961 Forest Act, state control over forest was further strengthened. Under state control, villagers were afraid to enter the forest because if they were caught by the forest guard they faced penalties and legal action. It was even difficult to construct a new house without obtaining permission from the Department of Forests. If the forest guard found any house under construction without permission from the forest department, the person faced legal action in the form of fines or imprisonment. In many instances, forest guards threatened villagers and bargained for bribes, and if such benefits were not provided, villagers could face legal consequences. Fearful of possible legal action, villagers compromised with the forest guards, often providing them with some form of financial or material benefit.

The status of the forest worsened gradually in the area, due to lack of local control. As the people did not feel a sense of ownership, the forest was indiscriminately harvested whenever it was possible to escape of the notice of forest guards. As forest staff and infrastructure were limited, the Department of Forest could not control the tree felling, and the forest in Chaubas became severely degraded. One of the informants said that he was born in 1960, and reported that by 1970 he was going to the forest to collect firewood, as were most village children to assist their parents. During those days, people used maize stalks, dung cakes and *khoya* (maize cob) as fuel for cooking, or would visit the degraded forest at dawn to dig up the roots of trees as a source of firewood, as there was no standing tree left in the forest. Also branches of different shrubs like *Chutro* (*Berbers aristata*), *Ghangaru* (*Cotoneaster microphyllus*), *Banmara* (*Chromolaena odorata*), and *Rudilo* (*Pogostemon benghalensis*) were taken for fuel. As fuel wood was such a scarce commodity in the village until 1985, people from Chaubas village would go to *Bangthali*, *Simthali*, *Bagdev Ko Chautaro* and *Sano Soti* forests in the neighboring village to collect forest products. These forests were also under severe pressure from the surrounding villages, and soon also became degraded. To collect a head load of firewood, people would leave the village about seven in the morning and return with a head load of firewood at 3-4 in the afternoon, which was sufficient for a

week for a household with average 5-6 members. The crisis of fuel-wood and fodder deficit experienced by the people of Chaubas reflected the wider degradation of the Nepalese mountains, brought to international attention with the publication of Eric Eckholm's influential article "*Tragedy in Shangri-La"* (1975: 764-765) in the journal *Science*.

7.4. Community-based Forest Governance (CBFG) Arrangements in Lakuri Rukh CFUG

Since the 1970s, significant attention in the international arena has been drawn to the importance of local people's involvement in local forest management (Hobley 1996, 2). According to the villagers, there was a barren hill slope in the north of the Chaubas called Jamune, which lies in Sindhupalchok district, and which was clearly visible from their village as it was covered with red soil. When the villagers saw the red hill turn to green, the then *Pradhan Pancha* (Village leader) of Chaubas, Dan Bahadur Kunwar, along with other villagers from Chaubas, went to visit the place. During their visit they learnt that the reforestation programme in Thokarpa, Sindhupalchok district, had been carried out in 1973 with the assistance of Nepal Australia Community Forestry Project (NAFP), and that the plantation campaign was led by a popular local conservation leader, Nil Prasad Bhandari. At the time of their visit, Tej Bahadur Mahat was the Divisional Forest Officer in Chautara Division, who also had the mandate and jurisdiction to look after the Kavrepanchok district. The delegation from the village requested the Divisional Forest Officer to help them with the reforestation of the barren hill slopes in Chaubas. The DFO informed them that this would be possible after consultations with officials in the Nepal-Australia Forestry Project (NAFP). In 1978, after several rounds of discussions with villagers, a forest nursery was established in Dharapani of the Chaubas Village Development Committee (VDC) with the help of NAFP, under the Chautara Forest Division. The villagers provided the land for the establishment of a nursery, and participated in carrying sand downhill from the Sunkoshi River as their voluntary contribution. After the seedlings were grown in the nursery, the reforestation programme in Chaubas was carried out from 1979. Within a few years, nearly 400 hectares of barren land were planted, mainly with three species

of pines (*Pinus patula, Pinus radiate, Pinus rexburghii*), as these species were considered good at tolerating poor soil condition and moisture stress (Van Eijnaten, Acharya, and Shrestha 2001, 1). The conservation effort undertaken by the villagers was an example of local people's concern to deal with existing resource degradation in their villages. Since 1973, more than 19,000 ha of plantation have been established in Kavrepalanchok and Sindhupalchok districts under the auspices of the Nepal – Australia Community Forestry Project.

Conservation efforts in Chaubas coincided with national forestry policy reforms introduced with the enactment of the 1978 Panchayat Forest (PF) Rules and Panchayat Protected Forest (PPF) Rules, which formed the basis for handing over of government controlled forests to villagers. On July 12, 1988, Pandey Gaon Forest in Kavrepalanchok district became the first forest in Nepal to be officially handed over to local community management. The forests in Chaubas VDC were also being managed under Panchayat Protected Forest provisions. However, the official handing over of forest in Chaubas began in the early 1990s, with the formation of a number of community forest user groups (CFUGs), among which responsibilities for large sections of forest were allocated.

As noted previously, the 1993 Forest Act, the 1995 Forest Rules, Community Forest Directives 1996, and the 1995 Community Forestry Operational Guidelines were considered progressive forest policies in Nepal, which mandated the CFUGs as self-governing autonomous bodies with authority and responsibility to protect, manage and utilize forests, based on their constitution and operational plan and according to resolutions of the CFUG general assembly. For the first time in the history of forest policy in Nepal, the Forest User Groups (FUG) were entitled to prepare and implement their own rules of forest management (constitution, and operation plan) within the general framework of community forestry, as stipulated in the 1993 Forest Act and the 1995 Forest Regulations. The 1995 Forest Regulations provided explicit authority to user groups to plant short-term cash crops like non-timber forest products (NTFPs), such as medicinal herbs; fix prices of forest products for their own use; transport forest products under their jurisdiction anywhere in the

country; and punish their members according to their constitution and operational plan in case of breach of rules. The legislation gave authority to local communities to manage the forests and reap benefits from the forests. The community holds full rights to manage the forest except for the sale of the total stock of trees and the land on which the biomass stands.

The Lakuri Rukh forest was officially handed over to the community on July 8, 1996, after which the conservation and management responsibilities of Lakuri Rukh CFUG legally came under the jurisdiction of the community. According to the Lakuri Rukh CFUG, before the handover of forest they prepared two required principle documents, the CFUG constitution and the operational plan (OP), which were finalized and approved by the CFUG general assembly (GA) meeting. Then the document was forwarded to the District Forest Officer. The Lakuri Rukh CFUG operational plan sets out the following objectives:

- To be self-reliant on forest products through the conservation, management of forest;
- To fulfil the day to day forest products (grass, leaf-litter, fuel-wood, fodder and leaf) needs of the forest user group (FUG), without having adverse impact to the forest;
- To maintain and balance the local environment through erosion control and protection of flora and fauna;
- To conserve the water source;
- To improve the economic status of its members by implementing forest based income generating activities; and
- To establish a saw-mill in collaboration with other adjoining CFUGs for the effective utilization of log timber obtained from forest thinning operation.

Migrants to the settlement who wish to become members of the CFUG are required to apply to the general assembly. Membership is cancelled if anyone resigns from the CFUG or migrates from the village permanently. Likewise, membership is cancelled if any member of the CFUG is found guilty of acting against the CFUG constitution or operational plan.

CFUG composition, processes and authorities

The Lakuri Rukh CFUG has an executive committee that consists of nine members, i.e. chairman, vice-chairman, treasurer, secretary, and five other members. The general assembly of CFUG elects the EC, and priority is meant to be given to women in the nomination process.

To date, the CFUG executive committee has been elected by consensus at the GA meeting. Decisions of the GA and EC are typically also by consensus. At EC meetings, every member in the committee presents their agenda, which is discussed thoroughly before a decision is made. Important issues which emerge out of informal discussions in various village settings are also put on the CFUG executive committee agenda for discussion. If there are any disagreements, a final decision is determined through majority vote.

CFUG members stated that they review CFUG objectives periodically at the general assembly meeting. Generally, the assembly meeting is scheduled once a year. However, it can be called whenever necessary by the CFUG executive committee. Two-thirds of the members must attend the assembly meeting to make it official. The CFUG general assembly meeting can make amendments to the constitution by a two-thirds majority vote. Any issues which are not included in the constitution shall follow 1993 Forest Act and 1995 Forest Rules. Every member of the CFUG executive committee takes an oath of office. The CFUG shall has its own official seal and can sue or be sued in its own name. Annexes to the OP contain the membership list, list of executive committee members, and financial transaction forms.

The Lakuri Rukh CFUG has a separate fund collected from various sources such as donations, prizes, membership fees, fines, and income through the sale of forest products. A bank account has been opened with joint signatures of the CFUG Chairman and Treasurer. For the operation of daily activities, the CFUG executive committee can spend NRs 500 at a time and not more than NRs 2500

in a year, which should be approved through the general assembly. There is a provision for annual financial audits through an approved auditor.

7.4.1. Lakuri Rukh CFUG Forest Management

The 1993 Forest Act and 1995 Forest Regulations provide for local authority to devise and to carry out forest management activities and control of encroachment and illegal activities in the community forest. The CFUG has programs to construct breaks and roads for fire control, and conservation education programs and workshops train CFUG members in methods of fire protection and conservation of non-timber forest products in the forest. Detailed measures to control illegal logging and encroachment are set out in the Lakuri Rukh constitution and operational plan. Provisions for fines and penalties in case of breach of CFUG rules have been incorporated in the CFUG OP. Every member of the CFUG is involved in forest monitoring, patrolling the forest by roster.

The CFUG carries out preventive measures to discourage forest-related offences, and also conducts investigations into cases of suspected offences. Any CFUG member who provides information or helps in identifying the person who committed damage to the forest will receive 25% of the total penalty incurred by the offender. Likewise, a prize of NRs 5,000 is offered for those members who make exemplary contributions in the management and conservation of community forest. These awards are made by the CFUG General assembly (GA). The following fines and penalties have been mandated according to the Lakuri Rukh operational plan:

Table 7.6: Fines and Penalties for Violation of CFUG Rules at Lakuri Rukh

Type of damage		Fine in Nepali Rupees		
	First time	Second Time	Third time	Fourth time
Damage to seedlings/saplings	5	10	20	Expelled from membership
Timber extraction/cu.ft.	50	100	200	as above
Fodder, leaf litter extraction	50	100	200	as above
Green firewood	5	10	100	as above
Grazing:				as above
Goats	25	50	100	as above
Cattle	100	150	200	as above
Setting fire				
Intentional	1,000	2,000	4,000	as above
Unintentional	100	200	400	as above
Encroachment[125] of forest	25,000	50,000	100,000	Encroached land shall be taken back
Hunting	1,000	2,000	4,000	Weapons Confiscated
Extraction of stone and soil	500	1,000	2,000	Expelled from membership
Misuse of CFUG funds	5,000	10,000	20,000	Expulsion from CF membership

Source: (Lakuri Rukh CFUG 2006, 16)

7.5. Community-based Forest Governance Outcomes

7.5.1. Community Forest Governance during Late Conflict Periods

From the interviews with CFUG members at Lakuri Rukh, it was clear that people lived constantly in a state of fear during the intense period of conflict. There were risks from both the government forces and the insurgents of the Communist Party of Nepal – Maoist (CPN-M). The law and order situation in many areas was out of government control. During the late period of conflict, the Lakuri Rukh community was under the influence and control of the Maoists. The police post in the village was destroyed by the rebels, and security forces came to the village on patrol every 2-3 months and stayed for few days searching for Maoists. Whenever security forces came to the village there were numerous incidents of violence and torture reported. Security forces tended to gather all the villagers and asked them to provide names of Maoists, their supporters and sympathizers. They accused the villagers of supporting and nurturing the Maoists and providing them with money, food and shelter. On such occasions,

[125] The encroached area is taken back at first offence. The encroacher has to reforest the area at his expense, pay penalties, and is suspended from CFUG membership for the duration of 3 months.

CFUG members were threatened, and on some occasions reportedly physically tortured by the security forces. When the security forces left the village, rebels in turn warned the villagers not to cooperate with the security forces by providing information or spying against them. The rebels told them that if they cooperated with the security forces they would bear grave consequences. Villagers say that it was even difficult to breathe during those days. Youths were the ones who suffered most during the intense period of conflict, as they were targeted by both sides. During the insurgency, as reported by villagers, three people were killed, more than 250 were tortured, and a large amount of property was destroyed in Chaubas. About 25 hectares of CF in Chaubas was also destroyed by fire between 2004 and 2006. People believed that the fires were deliberately set by security forces to destroy the rebels' hide-outs. When villagers tried to put out the fires, they were threatened with being killed. The situation was compounded by the threat the forest fires posed to their lives. The reported loss of life and property at Chaubas is as follows:

Table 7.7: Damage to Life and Property during Late Conflict Periods at Chaubas

Type of damage	Quantity	Location	Estimated loss (NRs)
People killed by rebels	2	Chaubas Ward No. 9 Chaubas Ward No. 2 Gufa	-
People killed by security forces	1	Chaubas Ward no. 5	-
Range post building destroyed by rebels	1	Ward No. 5 - Chaubas	3,000,000
Police Post building destroyed by rebels	1	Ward No. 5 - Chaubas	5,000,000
Post Office destroyed by rebels	1	Ward No. 5 - Chaubas	50,000 cash and documents destroyed
Telecommunication infrastructure destroyed by rebels	1	Ward No. 5 - Chaubas	7,000,000
Health Post Building destroyed by rebels	1	Ward No. 5 - Chaubas	15,000,00
Forest fire	20 ha	Chapani CF, Ward No. 5 - Chaubas	Estimated in millions of rupees
Forest fire	2 ha	Lakuri Rukh CF, Ward No. 5 - Chaubas	-do-
Forest fire	3 ha	Dharapani CF, Ward No. 7, Chaubas	-do-

Source: Fieldwork by author, 2008

According to the villagers, every section of the community was affected by security forces and rebels in some way. The rebels forced the villagers to provide 'donations' on a monthly basis, especially those who were involved in business or any form of income earning enterprises. In addition, villagers had to provide food and shelter to the rebels. These demands were mainly made on wealthy families, which made the food security of even those households vulnerable. The villagers could not deny the requests from rebels, as there was no security of their life and property if they ignored their demands. The Maoists forced the poor and socio-economically marginalized section of the community to participate in their mass meetings and rallies and also recruited them to their organization. The villagers during the armed conflict were sandwiched between the two forces, threatened by the Maoists if they did not provide donations, and by the security forces when they did. The villagers said that those who had an income and were relatively richer provided donations to the Maoists and hence felt safe in some respect. Those who could not provide donations, food or shelter always felt unsafe.

The armed conflict also had impacts on community forest management activities. The Maoists had established a policy to control the community forest through their local government. In 2001, the Maoists called a mass meeting in the village and told villagers that they had nationalized all the forests from Sailung[126] to Chaubas region, meaning that villagers had to ask permission from the Maoist Jan Sarkar (people's government) before implementing any forest management activities in the community forests. The CFUG executive committee held meetings with local Maoist rebels to obtain permission from them to carry out forest management activities as required by their operational plan. According to the Lakuri Rukh CFUG executive members, they tried to convince local Maoist leaders that if the forest management was not carried out on a regular basis, the community might lose millions of rupees and it may have negative impacts of people's livelihoods. In response to CFUG requests, the Maoist leaders reportedly responded that during war, life itself is uncertain, so no one really cares about forests. If the CFUG wanted to continue forest

[126] Sailung is situated in Dolakha district, north-east of Kavrepalanchok district, at an altitude of 3150m, southwest from Charikot at Saya Thumka Hill. From this viewpoint Mt. Everest, Machhapuchhre, Ganesh Himal, Kathmandu Valley and the Tarai region are clearly visible.

management activities, they would have to do so under Maoist guidance and processes. The Maoists indicated they would allow the CFUG to carry out thinning operations on the condition that they obtained permission from the Maoist Jan Sarkar (People's government) before conducting any activities in the forest, and they were also required to pay tax to their Jan Sarkar. As a consequence the CFUG bore a dual tax burden. Under national forest regulations, the CFUG had to pay a 15% royalty on any forest products sold outside the community, and an equal amount was now demanded by the Maoists. In addition to timber harvesting royalties, the CFUG sawmill was required to pay tax to the government and to the Maoist Jansarkar if they wanted to sell processed timber outside the community. In such an environment, the CFUGs in Chaubas found that it was not profitable to carry out any timber business, unless it was absolutely necessary to raise money for community development purposes. Thus the interest in and emphasis on forest management was markedly reduced. During the course of interviews with the sawmill management team, it was asserted that Maoists had taken NRs 225,000 as a 'donation' from the sawmill fund on a condition that they would return the money when their war with the government ended. According to CFUG executive members, when the peace agreement was signed between the government and Maoists, they had returned NRs 125,000 to the sawmill management.

7.5.2. Community Participation in Community-based Forest Governance in Lakuri Rukh CFUG during the Pre/early and Late Conflict Periods

After a series of discussions between the local community, forest department staff and staff of the Nepal Australia Community Forest Project, a decision was made to launch a plantation program to avert the problem of fuel-wood and fodder crisis. Local communities in Chaubas actively participated in the establishment of a nursery, providing land and voluntary labor for its establishment. When the plantation was completed, people were initially restricted from cutting the branches of the trees for firewood and grazing. Stringent protection measures were put in place for seven years, in order to allow the growth of the planted saplings. When planting was completed, villagers took responsibility for conserving the forest. In order to control the illegal harvesting and encroachment, a forest watchman was recruited from the local people and

the salary of watchman was paid by the project. The department of forest staff also played a significant role as a facilitator between NAFP and local villagers. When grazing was prohibited, there was some resistance from local people, as the villagers had traditionally used this land for grazing. On more than one occasion, the forest watchman was scolded and beaten for attempting to prevent the cattle from entering the plantation area. Despite some resistance however, the conservation efforts were largely successful due to the cooperation of the majority of the villagers. During the initial phase of plantation, whenever there was any problem of encroachment and dispute, people in the village organized meetings and the dispute was solved in a consensual manner. Although the plantation area was officially under the control of government, villagers formed an information committee and protected the plantation based on the local rules prepared by them.

After one year of plantation, people were allowed to cut the grass under the supervision of the forest guard and committee members. Due to restricted grazing, the amount of grass had increased beyond the requirement of local communities, which encouraged the villagers to participate more actively towards the conservation of forests. After 7 years of strict protection, the first pruning operation was carried out in 1989. One third of the branches were cut and two thirds were allowed to remain. Large quantities of fuel-wood were obtained from the pruning of trees, which were sold to villagers at a nominal price of 50 paisa[127] per *bhari (*head load), and the money earned was deposited in the CFUG fund. Within a decade, the status of the degraded forest had improved significantly. A study conducted by the Nepal Australia Community Forestry Project (NACFP) and Department of Forest to assess the status of plantation in Kavrepalanchok and Sindhupalchok districts found that of the total 8713 ha of pine plantation in Kavrepalanchok district, 6,988 hectares were in average or better condition, indicating the success of the plantation program, which was possible only through the participation and cooperation of the local communities (NACFP, 1995).

[127] A *paisa* is a monetary unit currently equivalent to $^{1}/_{100}$ of a Nepali rupee.

7.5.2.1. Representation of CFUG Members in Decision Making in the Lakuri Rukh CFUG

This section analyses procedural fairness in the decision making processes within Lakuri Rukh CFUG. Knowledge of which groups are and are not represented in the CFUG decision making bodies is important for understanding the extent of improvement in participation of different socio-economic groups in CFUG governance arrangements. The data collected during fieldwork on the representation of different socio-economic groups in the decision-making process of the CFUG in Lakuri Rukh show that key positions in the CFUG executive committee, like chairman and secretary, were mostly occupied by people from the higher caste and upper-income group, and by men. Data show that generally people from lower socio-economic groups occupied only the lower executive positions in the committee, which may not influence the decisions of the CFUG.

From 1995 to 2009 the average representation of upper-income, middle-income and lower-income households in CFUG executive committee was 30%, 19% and 51% respectively. It seems that people from middle-income and lower-income are underrepresented in relation to the proportion of membership, while people from upper-income groups are overrepresented according to the wealth ranking of the population. Similarly, 33%, 22% and 44% of people from higher-caste, lower-caste and ethnic groups are represented on the CFUG executive committee. These statistics show that although *Chhetri* (higher caste) occupied only 25% of the total population, they occupied 43% of the positions on the CFUG committee. Ethnic groups accounted for 68% of the total population but occupied only 43% of the positions on the CFUG executive committee. However, representation of the lower-caste is roughly proportionate.

Table 7. 8: Representation in CFUG Executive Committee by Gender, Class and Class

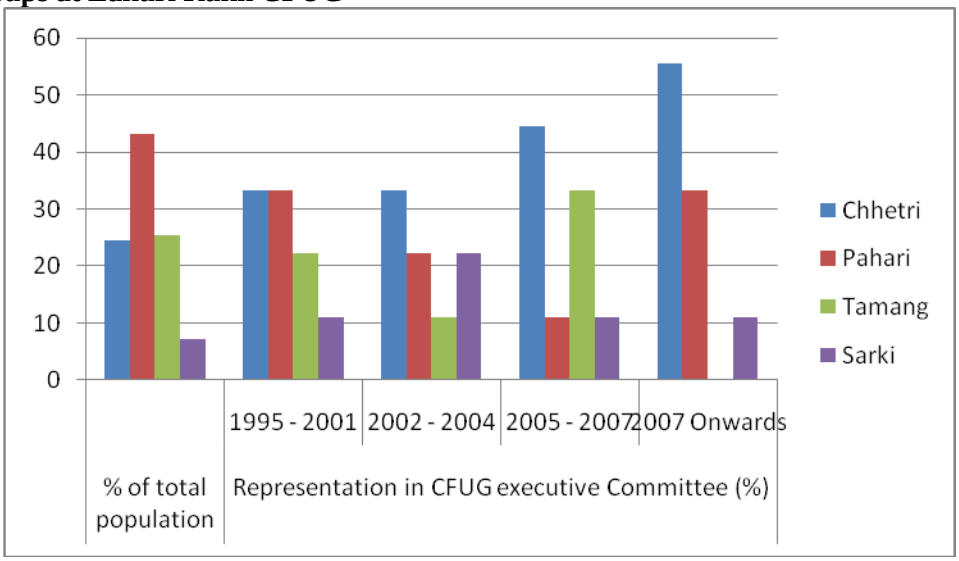
Year	Total members	Gender		Income category			Caste		
		Men (%)	Women (%)	Upper-income (%)	Middle-income (%)	Lower-income (%)	Higher Caste	Lower caste (%)	Ethnic group
1995 – 2001	9	78	22	22	22	56	44	11	44
2002-2004	9	78	22	22	22	56	33	22	44
2005-2007	9	60	40	30	20	50	40	10	50
2007-2009	10	67	33	44	11	44	56	11	33
Total	37	71	29	30	19	51	43	14	43

Source: Data compiled by author from Lakuri Rukh CFUG records, 2008

Recently the Lakuri Rukh CFUG has adopted a policy to reconstitute the committee every two to three years, in order to give opportunities to all the members to be elected to the CFUG executive committee. However, in practice, it was observed that the socio-economically advantaged and influential village elites continue to hold the key positions of the CFUG by turn, which indicates that the interests and concerns of poor, women and *Dalits* (lower caste), who depend more on community forests for their livelihood, may not be adequately considered.

Disaggregated data show that the *Pahari* and *Tamang* (ethnic groups) which comprise the largest proportion of the population (68%), occupy only 43% of positions in the CFUG committee. The *Chhetri* (higher caste), who are relatively well educated and traditionally dominated the village, have a major influence on Lakuri Rukh CFUG business. They are 25% of the total population, however, from 1995 to 2009 they occupied 43% of positions on the CFUG executive committee.

Figure 7.2: Representation in CFUG Executive Committee by Caste and Ethnic Groups at Lakuri Rukh CFUG

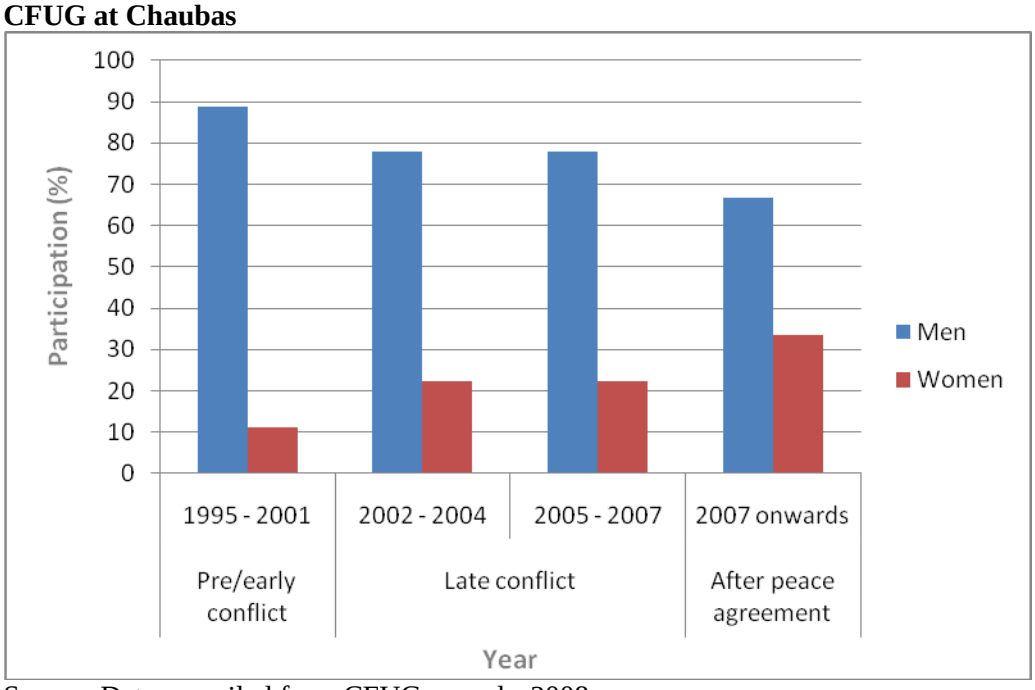


7.5.2.2. Participation of Women in Decision Making

People admitted that in the early phases of the community forestry program, the women who attended the GA meeting did not speak publicly and were only silent spectators. Until the 1980s, socio-cultural barriers meant that women were represented (and to varying degrees controlled) by male relatives. When an outsider wanted to interview a woman, they were required to seek permission from her husband, father or father in law. In the present day, women now participate freely in CFUG activities and other village affairs. In discussions with women, they convey the impression that the socio-economic status of women has been gradually improving over the last 2 decades. The community forestry program has played a significant role in the empowerment of women and improvement in their circumstances, as a result of training programs, workshops, observation tours and adult literacy classes, which have been organized with the help of Nepal Australia Community Forestry Project. With the coordination of CFUG, the *Gao Bikask Karyakram* (Village Development Program) has been implemented in Chaubas. Under this program, various women's savings and credit groups have been formed in the village and are operating successfully. At present there are more than 22 such groups, which have acted as a vehicle for the socio-economic transformation of women's positions. Aside from providing loans for various income generating schemes,

the savings and credit groups have contributed to the empowerment of women, alongside other programs aimed at social justice and conflict resolution, mainly targeted to address family violence and discrimination against women. The data show that women's representation on the Lakuri Rukh CFUG executive committee, which was 11% during the inception phase of community forestry, slowly increased to 22 % and is 33 % at present. Data show that women's representation on the executive committee also increased during the late conflict period. It is believed that the pressure exerted by the Maoists for socio-economic reform influenced policies in favor of women. It is also interesting to note that only women from middle-income and low-income households have been represented on the committee. It seems that women from upper-income households are either reluctant to serve on the committee or have less freedom than women from other income groups.

Figure 7.3: Representation of Women on the Executive Committee in Lakuri Rukh CFUG at Chaubas



Source: Data compiled from CFUG records, 2008

Participation of women and men in annual General Assembly meetings from 1995 to 2008 was 28% and 72% respectively. There has been some progress in the participation of women over time. During the late conflict period their participation declined, but it has increased since the peace agreement in 2006.

Table 7.9: Participation in General Assembly by Gender

Fiscal year	Total	Men (%)	Women (%)
1995	61	75	25
1996	55	73	27
1997	57	79	21
1998	54	78	22
1999	54	72	28
2000	49	61	39
2001	46	70	30
2002	48	85	15
2003	52	77	23
2004	45	80	20
2005	-	-	-
2006	47	68	32
2007	51	57	43
2008	48	58	42
Total	667	72	28

Source: Compiled from CFUG Records, 2008

7.5.2.3. Frequency of CFUG General Assembly (GA) and Executive Committee (EC) Meetings

Regular meetings of the general assembly and executive committee are important for the effective governance of community forest related issues, and indicate how dynamic the CFUG is. Data compiled from CFUG office records indicate that the Lakuri Rukh CFUG has conducted GA and EC meetings regularly since 1995, with the exception of 2005 due to the severity of the conflict during that year. The main cause of the disturbance at that time was the uncertainty that came after the forest policy was announced by the Maoists in 2001, which required CFUGs to obtain permission from the Maoist Jan Sarkar before conducting any meetings or forest management activities. As the CFUGs in Chaubas, including the Lakuri Rukh, did not agree with the Maoist agenda, this policy directly impacted on the CFUG. According to committee members, it was difficult to convene the CFUG meeting publicly during the late conflict period, because of the fear of Maoist intervention as well as prohibitions from the security forces against mass public meetings.

Table 7.10: CFUG General Assembly and Committee Meeting at Lakuri Pakha CF at Chaubas

Fiscal Year	No. of General Assembly Meeting held	No. of Executive Committee Meeting
1995	3	10
1996	1	12
1997	1	12
1998	1	12
1999	1	12
2000	1	12
2001	1	12
2002	1	12
2003	1	-
2004	1	6
2005	-	4
2006	1	22
2007	1	13
2008	1	5

Source: Lakuri Rukh CFUG record

It was also difficult to convene the full committee meeting on a regular basis, as members had been displaced from the village. To cope with this situation, the committee formed a 3 member sub-committee among the members of the executive committee, with a mandate to carry out day to day administrative and forest management activities for the CFUG. The main objective of forming the 3 member committee was to address immediate issues raised by CFUG members, particularly decisions regarding the demand for timber. As there were plenty of forest products available, and the access to forest was unrestricted throughout the year, forest users did not have to obtain approval from the committee to collect forests products other than timber. For practical reasons, if any member of the CFUG submitted an application requesting timber, the three-member committee would visit the houses of applicants and verify the need for timber, prior to granting permission.

7.5.3. Equity, Access and Benefit Sharing Mechanisms in Lakuri Rukh CFUG

It is clear from interviews with CFUG members in Lakuri Rukh CFUG that once the forest in Chaubas came under community management, the villagers' access to forest products was significantly improved, and the acute shortage of firewood was reversed. After seven years of complete protection, local communities started thinning operations that provided abundant fire-wood. Every year thinning operations continue to be carried out from November to February, under the supervision of CFUG committee members and ccording to the provisions set in the CFUG operational plan. The forest products generated from thinning, especially the log timber, are sold to the community sawmill, and remaining branches and other byproducts are distributed to CFUG members. At present, the need for forest products by the CFUG households is completely satisfied. As the supply of forest products is far more than the demand, the collection of fuel-wood, fodder, grass and leaf-litter is not regulated by CFUG rules. Forest user group members are free to collect fallen branches and dry firewood free of cost anytime throughout the year. CFUG members asserted there is no discrimination in access to the forest.

7.5.3.1. Equity in Distribution of Forest Products in Lakuri Rukh CFUG

According to the CFUG members, the community forest is open all year round to collect firewood, especially dead wood and fallen branches. As the supply of firewood is in excess of demand, there is no need to regulate the collection of firewood. However, strict controls for acquiring timber are stipulated in the CFUG constitution, which permits cutting mainly for building a new house and maintenance of existing houses. The CFUG members who want to acquire timber for construction have to submit an application to the CFUG office explaining the purpose and quantity of timber required. After the application is received, the CFUG executive committee inspects the applicant's house and investigates whether the demand is genuine. If the demand for timber is found satisfactory, then the person has to pay a fee at the rate of NRs 10/- for pine timber (pine species) and NRs 20/- for *Chilaune* (Schima wallichii) timber after which he/she is granted permission to cut trees in the area allocated by the

committee. Lakuri Rukh CFUG has adopted a policy of positive discrimination concerning the distribution of forest products, and has also embraced a policy of social justice. There is a provision providing concessions for certain forest products to those CFUG members that belong to poor, landless and disadvantaged groups. Moreover, certain forest products are provided free of cost during any time of natural disaster, and for socio-cultural and religious ritual observance. The Lakuri Rukh CFUG has adopted a policy of providing 100 cu ft of timber free of cost to lower-income households for the construction of new and repair of existing houses. These initiatives were made by the community themselves, based on the age-old tradition of social justice towards the underprivileged and social responsibility during periods of crisis. According the Lakuri Rukh CFUG OP, the leaf-litter and fodder of *Banmara (Chromolaena odorata)* can be collected free of charge throughout the year without any restriction, but grass can be collected only during the months of July to September. Furthermore, green fuel-wood which is a byproduct of thinning operations can be accessed in the months of September, November, January and February, and dry and dead fuel-wood can be collected free of charge throughout the year. The policies adopted by the CFUG for distribution of forest products are as follows:

Table 7.11: Forest Products Distribution Policy of Lakuri Rukh (Ka) CFUG at Chaubas

Forest product	Quantity	*User category*	
		Poor, landless and disadvantaged[128]	Other Users
Leaf litter, and fodder of Banmara (*Chromolaena odorata*)	As per availability	Free of cost	Free of cost
Grass (permitted to collect only in the month of October)	As per availability	Free of cost	Free of cost
Fuel wood (green) – distributed equally to all members from October to March	As per availability	NRs. 1 per cu. ft	NRs. 1 per cu. Ft
Fuel wood(dead wood) – permitted to collect throughout the year	As per availability	Free of cost	Free of cost
Timber for house construction	100 cu ft Maximum limit is 150 cu. Ft	Free of cost	NRS. 20 per cu ft for *chilaune* (*Schima wallichii*) and NRs 10 for other species.
Wood for agricultural tools	As required	Free of cost	Free of cost
Timber for public construction work	100 cu ft (free of cost)	-	-
Wood for funeral	As required	Free of cost	Free of cost
Fuel wood for religious ceremony	As required	Free of cost	Free of cost
Timber during natural disaster	100 cu ft	Free of cost	Free of cost

Source: Compiled from Laluri Rukh Operational Plan, 2006

Lakuri Rukh CFUG has also adopted a number of other innovative policies. Male goats[129] have been purchased from CFUG funds and made available for breeding purposes. The Lakuri Rukh CFUG has also adopted a policy to provide NRs 1000/- as a grant to construct a permanent toilet to those households that belong to lower socio-economic strata. Members that adopt family planning after having either one daughter or son will be provided with NRs 1,000/- as a measure to control population. The CFUG will provide Rs. 2500/- to those couples who take up family planning after having two daughters.

[128] Disadvantaged or marginalized people in Nepal refers to those who are deprived of some of the basic necessities of life such as proper housing, health care facilities, education, income earning opportunity, or social equity. These people are generally from specific ethnic castes or minority groups, particularly those of the *dalits (*lower caste) and *janajatis* (indigenous peoples) and women.

[129] Many farmers in the village are reluctant to keep male animals (bulls, goats, rams), as they are costly and difficult to keep, and do not produce milk or offspring. The farmers prefer to sell or slaughter the male animals, and keep only the females, which makes it difficult to find male animals for breeding. Providing male animals for the purpose of breeding is considered a useful initiative especially in rural areas where household income is partly supported by animal husbandry.

7.5.3.2. Access to and Distribution of Forest Products during the Late Conflict Period

The data collected during fieldwork suggest that the collection of forest products declined significantly (21- 42%) among all income groups during the late period of armed conflict, as compared to pre/early conflict situation. However, the collection of some non-timber forest products (NTFPs) increased in this period. Villagers said that due to the worsening law and order situation, it was risky to enter the forest to collect forest products. They feared having encounters with Maoist rebels and they also feared coming across explosive devices. Moreover, the forest was being used as a training site and a hideout by Maoists and hence was targeted frequently by security forces. In such a situation, villagers went to the forests cautiously in small groups, only to collect those forest products which were absolutely necessary, and depending upon the security situation in the village. When there was patrolling from government forces, Maoist rebels would hide in the forest to avoid attack. It was dangerous to enter the forest in large groups because there was constant aerial surveillance by helicopters from the security forces, thus there was a high risk of aerial bombardment and firing. When there was not a security presence in the village, villagers found it relatively safe to enter the forests. According to forest users, the Maoists did not impose any specific restrictions on accessing the forest. Although the frequency of visits to the forest and the quantity of forest products collected was reduced, villagers reported that this did not have severe impact on their livelihoods. Surprisingly, the amount of NTFPs collected increased during the late period of conflict. The reason for the increase in the amount of the non-timber forest products (NTFPs)[130] collected in the late conflict periods was due mainly to the increase in the availability of NTFPs in the community forest, as there was relatively little disturbance compared to the pre/early conflict situation, and also greater demand for such products in the market.

[130] There is great variation about the definitions of NTFPs; however, in Nepal fuel wood, fodder and timber are not regarded as NTFPs. In literature the terms like minor forest products (MFPs), non-timber forest products (NTFPs), and medicinal and aromatic plants (MAPs) are used interchangeably. For the purpose of this study, when using the term 'NTFPs' I refer to plants which have medicinal value, as opposed to those used for timber, fuel wood or fodder.

Table 7.12: Mean Annual Forest Product Collection per Household during Pre/early and Late Conflict Periods, Lakuri Rukh - All categories*

Forest products	Pre/early conflict	Late conflict	Change (%)
Timber(cu. ft)	11.89	7.78	- 34.57
Fuel wood (*Bhari*)	97.22	76.00	- 21.83
Fodder (*Bhari*)	58.89	36.11	- 38.68
Grass (*Doko*)	87.78	51.22	- 41.65
Leaf litter (*Bhari*)	103.11	69.11	- 32.97
Other NTFP (kg)*	0.80	3.04	+ 280.00

Source: Fieldwork by author, 2008 * 1 *bhari of* green fuel wood is approximately equivalent to 50 kg; 1 *bhari* of fodder or grass is equivalent to 25 kg; and 1 *doko* of leaf litter is equivalent to 20 kg.

When the data on forest products collection are further analyzed and segregated among the different income groups, they show that the quantity of fodder, grass and leaf-litter collected by middle-income and upper-income households was more than that of lower-income households. However, the amount of fire-wood collected by low-income households was greater than that collected by other income groups (see Table 7.13).

Similarly, data indicate that the forest products (fuel-wood, fodder, grass, leaf-litter) collected by middle and upper-income households decreased sharply during the late conflict period, as compared to lower-income households. However, the collection of NTFP sharply increased among the lower-income households compared to other groups. The main reason for the decline in the amount of forest products collected by middle and upper-income households is that, compared to low-income households, these two groups have more *kharbari* land holdings from which they can obtain such products during times when it may be considered dangerous to enter the community forest. In contrast, low-income households have limited areas of *kharbari* and are more heavily dependent on the community forest for, fuel-wood, fodder, and timber. The main reason for the increase in the collection of NTFPs during the later conflict period, especially among low-income households, is attributed to the heavy reliance of these people on community forest for their income, as NTFPs generally have a good market price. At the same time these groups of people were prepared to take the oppurtunity as they believed that they did not have a conflict of interest or threat from the Maoists.

Table 7.13: Mean Annual Forest Products Collection per Household during Pre/early and Late Conflict Periods by Income Category, Lakuri Rukh CFUG

Income group	Timber (cu ft)	Fuel wood *(Bhari)*	Fodder *(Bhari)*	Grass *(Doko)*	Leaf litter *(Bhari)*	NTFP (Kg)
Low-income						
Pre/early conflict	5.33	111	52.67	85.33	91.33	0
Late conflict	8.33	93.33	37.33	56	63.33	4.67
Change (%)	+56.29	- 15.92	- 29.12	- 34.37	-30.66	+467
Middle-income						
Pre/early conflict	9.33	110	54.66	90	102	1.33
Late conflict	9.33	81.33	32.67	55.33	69.67	3.67
Change (%)	0	-26.06	-40.23	-38.52	-31.7	+175.94
Upper-income						
Pre/early conflict	21	70.67	62.67	88	114.67	1.07
Late conflict	5.67	53.33	38.33	42.33	75.67	0.8
Change (%)	- 73	- 24.54	- 38.84	- 51.9	- 34.01	- 25.23

Source: Fieldwork, 2008

7.5.4. Income and Expenditure of Lakuri Rukh Community Forest User Group (CFUG)

Data show that 98% of the CFUG income comes from the sale of log timber, and the remaining income comes from membership fees, interest and miscellaneous sources. From 1997/98 to 2007/08, the Lakuri Rukh CFUG was able to earn about 1.21 million Nepali Rupees (equivalent to *US$ 16,452).*

Table 7.14: Income of Lakuri Rukh CFUG (1997/98 - 2007/08)

Source of income	Amount(NRS)	% of total income
Sale of timber	1,227,779	98.1
Membership fee	2,545	0.2
Interest	17,292	1.4
Others (prize)	4,300	0.3
Total income(NRs)	1,251,916	100.0
Total US$ equivalent	16,452	-

Source: Compiled from CFUG records

Lakuri Rukh CFUG record shows that 66% of income was earned during the pre/early conflict period and 34% of income was earned during the late conflict period. These data indicate that although the CFUG had to face many difficulties to implement their planned forest management activities, the Lakuri Rukh CFUG

was still able to carry out forest management activities and earn income, even during the late period of intensified armed insurgency.

Table 7.15: Income of Lakuri Rukh CFUG during Pre/early and Late Conflict Periods

Activities	Pre/early conflict		Late conflict	
	1997/98 – 2000/01		2001/02 – 2004/05	
	Amount	% of total	Amount	% of total
Sale of timber	704,180	65	363,612	34
Sale of fuel wood	-	-	-	-
Membership fees	1,285	0	1,260	0
Prize	4,300	0	-	-
Interest	4,788	0	5,604	1
Total	714,552	66	370,476	34

Source: Compiled from Lakuri Rukh CFUG records

7.5.4.1. CFUG Expenditure and Community Development Activities in Lakuri Rukh CFUG

During the formation of the Lakuri Rukh CFUG, it was explicitly mentioned in the constitution that the income of the Lakuri Rukh shall be invested in the development of Seti Devi School at Chaubas. The Lakuri Rukh has made a commendable effort by investing CFUG income in upgrading the status of the village school, which has significantly helped to increase local children's access to education. Despite the difficulties faced by Lakuri Rukh since the outbreak of violent conflict, they continued investment in community development activities. Data collected during field work show that of the total expenditure from CFUG fund (1997/98 – 2001/05), 51% and 44% of investments were directed towards forest management and community development activities respectively.

Data show that of the total expenditure of the CFUG between 1997 and 2005, 47% of its investments were made during the pre/early conflict and 53% during the late conflict periods respectively (see Table 7.16). Investment in community development activities was even higher in the late conflict period, compared to the pre/early conflict situation, which enabled the CFUG to compensate to some extent for the economic disruption of that period. Out of total 45% expenditure in community development activities, 44% alone was invested in upgrading the Seti Devi lower secondary school into a full secondary school. The CFUG has

also made investments in road improvements, to help the transportation of log timber.

Table 7.16: Expenditure of Lakuri Rukh during Pre/early and Late Conflict Period

Description	Pre/early conflict (1997/98 – 2000/01)		Late conflict (2001/02 – 2004/05)	
	Amount	% of total	Amount	% of total
1. Forest Management				
1.1 Thinning operations	332,618	33	173,042	17
1.2 Forest road construction	-	-	15,000	1
2. Community development				
2.1 Donation to school	*124,000*	12	327,250	32
2.2 Improved goat purchase	-	-	10,000	1
3. Administrative cost	16,554	2	23,910	2
Total	473,172	47	650,563	53

Source: Compiled from Lakuri Rukh CFUG record

7.5.4.2. Contribution of CF in improving the Educational Opportunities in Chaubas Village

One of the informants recalled that before the 1970s, all school age children in Chaubas used to spend most of their time grazing cattle and helping with household chores. During that time, there was only one school in Chaubas village, which provided lower-secondary education. To receive upper secondary[131] education, the children from Chaubas had to walk hours to a school in the next village. After the implementation of forest management activities and the operation of the community sawmill, the CFUGs in Chaubas were able to increase their income, and directed most of their investment towards improving the status of the Seti Devi School. As the Seti Devi school did not have government permission to operate secondary education, due to a lack of financial resources and physical infrastructure, the Lakuri Rukh CFUG deposited Nepali rupees 125,000/- in two installments as collateral to gain approval from the Department of Education to upgrade the Seti Devi school to secondary level. In addition, Lakuri Rukh CFUG provided financial assistance to pay salaries for two teachers at the secondary level, providing them with NRs 3,000 and 5,000 as a monthly salary from 1998 to 2000. Financial assistance to the local school has continued since 2001, although the income of CFUG decreased during the period

[131] Education in Nepal is structured as school education and higher education. School education includes primary level of grades 1-5, lower secondary and secondary levels of grades 6-8 and 9-10 respectively. Higher education is college and university level education, which start after completing 10+2 education.

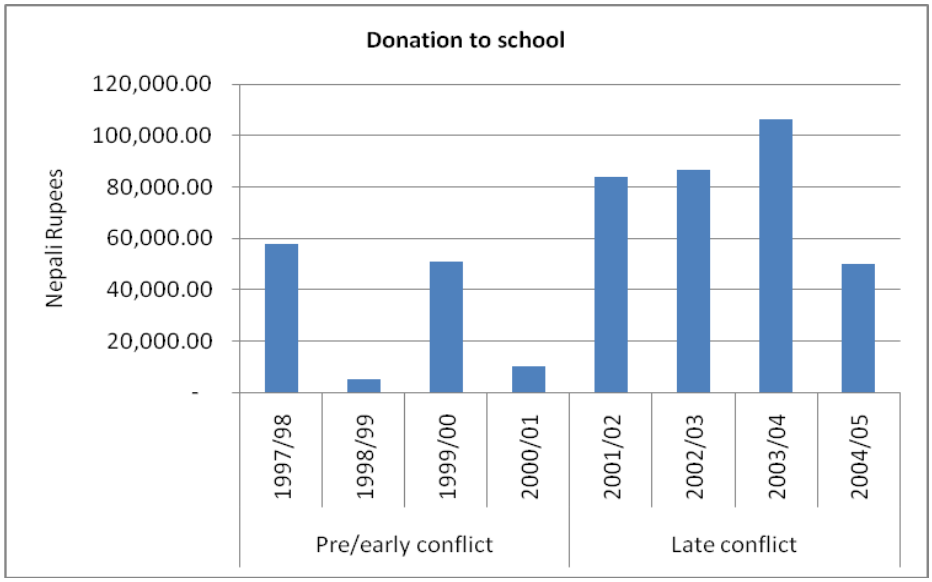
of insurgency. After upgrading and improvement of the facility in Shree Seti Devi School in Chaubas, there was a marked improvement in the literacy rate of school-age children. A study (van Eijnatten and Shrestha 2001, 16) shows that in 1995, 61% of the male and 72% of the female population of 7 years and above were illiterate. By 2000, the illiteracy rate decreased to 27% and 60% among boys and girls respectively. Another finding of the study was that in 1995/96 the ratio of boys and girls attending school in Chaubas was 3:1, however, by 1999/00, the number of boys and girls attending school was equal.

Another assessment was carried out by Lakuri Rukh CFUG to assess the enrolment of school age children, which showed that a total of 138 households were sending their children to school, while 38 households that belong to *Sarki, Kami* and *Pahari* lower caste and ethnic groups either did not send their children to school, or had children who were enrolled but did not have regular attendance. The CFUG executive committee members visited these households and discussed the situation with the parents. The major reason reported for not sending their children to school was that the children were needed to help with household activities, as they were engaged in working as wage labor to support their family. After this finding, the Lakuri Rukh CFUG made a decision to provide scholarships to children from lower caste and poor families, in order to increase their attendance at school. The scholarships were provided in the form of notebooks, pencils and a school bag. Since the scholarships have been available the number of children attending school has increased, however attendance for these minority groups is still not satisfactory.

Access to Education during the Late Conflict Period

During the late conflict period, schools in Nepal were frequently closed; mainly because of the *bandha* (strikes) organized by the Maoist rebels. School children were pressured to attend the rallies, mass meetings and cultural programs organized by the rebels. The frequent *bandha* organized by the rebels affected the quality of education. For example in June 2004, schools all over Nepal were closed for over two weeks, due to a strike declared by the Maoist student association. Despite these problems, Shree Seti Devi Secondary School in Chaubas continued to function well, with continued financial support from the CFUG. The data collected during fieldwork show that of total expenditure (of NRs 451,250/-) made by Lakuri Rukh CFUG to Seti Devi Secondary School, 28% of that investment was made during the pre/early conflict period and 71 % during the late conflict period. From 1998 to 2007, the Lakuri Rukh CFUG donated about 40% of its income to Seti Devi secondary school.

Figure 7.4: Donations to Shree Seti Devi Secondary School by Lakuri Rukh CFUG at Chaubas



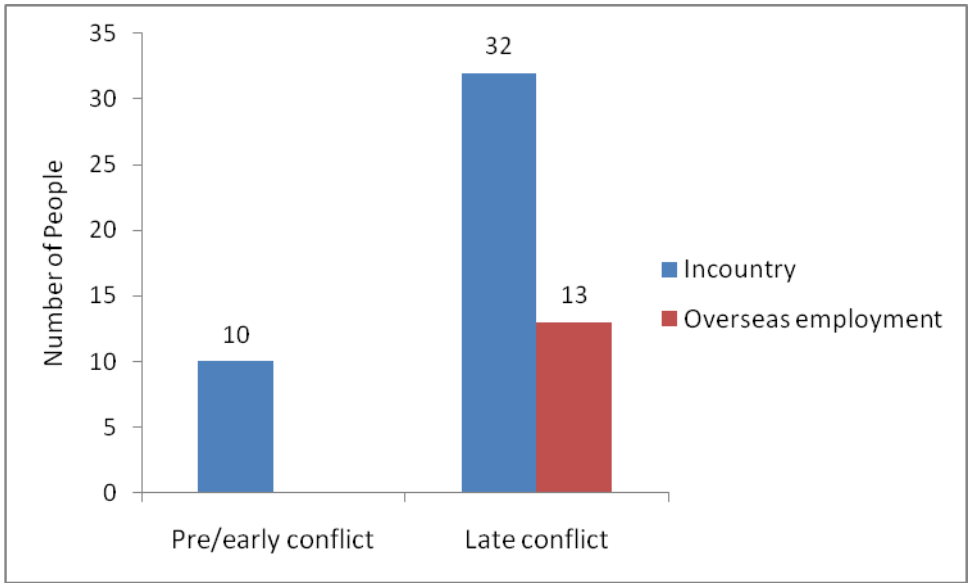
Source: Compiled from CFUG record

7.6. Livelihoods Outcomes

7.6.1. Seasonal Migration as a Source of Household Income in Lakuri Rukh CFUG

In the past, cereal crops were the main source of household income and livelihood support in the hills of Nepal. However over the past 2-3 decades, the role of off-farm income has become increasingly important for supporting livelihoods. A study conducted in 1992 found that that annual household income in Chaubas village was NRs. 19,892 (Malla 1992), out of which 46.46% and 53.54% was derived from farm income and off-farm income respectively. These data indicate that the majority of families no longer depend primarily upon subsistence agriculture, but rather that a significant amount was earned from off-farm activities (Collett et al. 1996, 51). Seasonal migration from the village for employment has been a major feature of livelihood strategies in rural Nepal, resulting from the "push" (high levels of poverty and food insecurity) and "pull "factors (seasonal employment opportunities elsewhere). The worsening law and order situation resulting from the armed conflict was among the factors causing more people to leave the village in search of jobs (Gill 2003, 1)**.** The economically active family members in Chaubas village temporarily migrate to Kathmandu and other parts of Nepal, and some even go overseas in search of jobs. Permanent migration from the village to other parts of the country especially to the *terai* region of Nepal is also on the rise in recent years.

Figure 7.5: Temporary Migration from Lakuri Rukh CFUG during Pre/early and Late Conflict Period



Source: Fieldwork by author, 2008

According to an estimate by the villagers in Chaubas, about one-third of their income comes from the off-farm wages (casual), especially for the middle and lower-income households. Moreover, it is estimated that about 5% of youths from Lakuri Rukh CFUG households left the village for overseas employment. The practice of seasonal labor migration in Chaubas emerged over the last 2- 3 decades, mainly because of the lack of employment opportunities and persistent poverty. However, the proportion of the economically active population that has left the village has increased drastically since the onset of the Maoist insurgency. The worsening law and order situation and insecurity of life and property further stimulated youth migration from the village.

People reported that 50-60% of youths above the age of 18 had left the Chaubas villages during the period of conflict. In Tamang hamlet almost all the youth had left the village. Most of them went to district centers and the capital city Kathmandu in search of jobs. The data collected regarding the status of seasonal migration from Lakuri Rukh CFUG households suggest that there has been a 220% increase in seasonal migration within the country and 100% increase in overseas employment. Those youths who left the Chaubas village mostly worked in the brick kiln, restaurant, hotel, and transportation sectors, mainly as driver and laborers. Parents were forced to send their children to the capital city or overseas to avoid being conscripted by either of the contending forces. Due to

such massive out-migration of youths from the villages, there was a shortage of workforce in the farming sector, and much arable land was left fallow. The shortage of fertilizer and rising costs of agricultural inputs resulted in further declines in agriculture production. During group discussions with villagers, they said that there is little chance that those who left the village will return to live permanently in the village. Once displaced people find some kind of employment in the city, they have been less motivated to return to village, except for occasional visits during festivities. Even during the historic general election of 2008, very few youths turned up in the village to cast their votes.

7.6.2. Household Income in Lakuri Rukh CFUG at Chaubas

During this research a household survey was conducted to assess the household income and livelihoods strategies of the households of Lakuri Rukh CFUG in Chaubas. The data indicate that the major sources of income for the Lakuri Rukh CFUG are overseas employment, cereal crop production, salary/waged (permanent) work within Nepal, and forest products; in that order (see Table 7.17).

Table 7.17: Mean Annual Household Income in Lakuri Rukh CFUG, Chaubas (all categories)

Source of income	Income(NRs)	% of total income
Overseas employment	22,048	27
Cereal crops	16,125	20
Salaries/waged work (permanent)	9,314	12
Forest products/NTFPs	8,833	11
Self Employment	7,897	10
Off-farm wages (casual)	5,260	7
Small animals (goat, sheep)	4,978	6
Poultry	2,143	3
Dairying	2,044	3
On-farm wages (casual)	1,400	2
Swine/pig	644	1
Total income	*80,687*	100

Source: Field survey by author, 2008

When the data are disaggregated, they suggest that there is a significant difference in household income among different income categories. The income of middle-income and upper-income groups is almost three times and four times higher, respectively, than that of lower-income households. The two major sources of income for the upper-income and middle-income household are overseas employment and cereal crops respectively, while cereal crops and off-farm wages (casual) are the two major sources of income for low-income households. Data collected through the household survey suggest that the community forest plays a significant role in the household income and livelihoods of low-income households, as compared to middle and upper-income households. Of total household income, 28 % of income comes from the community forest for low-income households, while it is only 12% and 6% for middle and upper-income households.

Table 7.18: Mean Household Income (NRs) by Income Category, at Lakuri Rukh CFUG

Source of income	Low-income		Middle-income		Upper-income	
	Amount	%	Amount	%	Amount	%
Cereal crops	7,893	22	15,627	20	24,854	19
Dairying	700	2	900	1	4,533	4
Small animals (goat/sheep)	5,100	14	3,767	5	6,067	5
Swine/pig	600	2	1,333	2	0	0
Poultry	1,500	4	2,300	3	2,629	2
Salaries/waged work (permanent)	1,067	3	6,733	9	20,143	16
Overseas employment	0	0	24,000	31	42,143	33
Self employment	667	2	7,667	10	15,357	12
On-farm wages (casual)	2,967	8	1,233	2	0	0
Off-farm wages* (casual)	5,200	15	4,867	6	5,714	4
Forest products and NTFPs	9,783	28	9,308	12	7,408	6
Total	35,477	100	77,734	100	128,849	100

Source: Fieldwork by author, 2008* includes sawmill workers

Growing cereal crops still seems to be one of the important sources of household income for all income categories; however, the crops are mainly utilized for household consumption rather than sales among lower-income and middle class households, while rich households occasionally sell grain. Almost one third of

total household income for the low-income households is obtained from labouring. Similarly, animal husbandry (small animal) and poultry has been the second largest source of income for low-income households. In recent years, overseas employment has evolved as a major source of income for middle-income and upper-income households; however, the poorer sections of the community cannot invest in pursuing overseas employment because of the capital investment.

Similarly, data were compared on the income of households during the pre/early and late conflict period. The data suggest that the overall household income of low-income, middle-income and upper-income household increased by 1%, 48% and 44% respectively during the late conflict period as compared to pre/early conflict situation. Overseas employment has emerged as a new source of income for middle and upper-income households, which has largely contributed to the increase in their household income. The data also confirm that the incomes of low-income households increased during the late conflict period, mainly through NTFP, on-farm wages and outside employment. As many youth left the village during the period of insurgency there was a shortage of labour in the agricultural sector. Thus those who remained in the village, especially those from lower-income groups, had increased opportunities for work as casual wage labourers.

Table 7.19: Mean Household Income (NRs) during Pre/early and Late Conflict Period

Source of income	Income category								
	Low income			Middle income			Upper income		
	Pre/early conflict	Late conflict	Change (%)	Pre/early conflict	Late conflict	Change (%)	Pre/early conflict	Late conflict	Change (%)
Cereal crops	7,893	7,893	-	15,027	15,627	+4	25,319	24,854	-2
Dairying	733	700	-5	1,333	900	-33	4,833	4,533	-6
Small animals (goat/sheep)	4,400	5,100	+16	3,033	3,767	+24	6,167	6,067	-2
Swine/pig	600	600	-	0	1,333	+1,333	-	-	-
Poultry	1,173	1,500	+28	1,900	2,300	+21	2,253	2,629	-17
Salaries/waged work (permanent)	400	1,067	+167	4,267	6,733	+58	19,429	20,143	+4
Foreign Employment	-	-	-	0	24,000	+24,000	0	42,143	+42,143
Self Employment	1,333	667	-50	7,000	7,667	+10	13,000	15,357	+18
On-farm wages (casual)	1,000	2,967	+197	733	1,233	+68	2,286	0	-100
Off-farm wages (casual)	5,600	5,200	-7	6,333	4,867	-23	3,571	5,714	+60
Forest products and NTFPs	11,850	9,783	+17	12,733	9,308	-27	12,600	7,408	-41
Total	34,983	35,477	+1	52,360	77,734	+48	89,459	128,849	+44

Source: Fieldwork by author, 2008

7.6.3. Contribution of Community Forest (CF) on Household Income and Livelihoods in Lakuri Rukh CFUG

During the 1970s, local communities in Chaubas planted more than 400 ha of completely deforested lands with pine trees, with the assistance of the Nepal-Australia Community Forestry Project (Van Eijnaten, Acharya, and Shrestha 2001, 1). Since 1989, the government has handed over the plantation forest to a number of CFUGs in Chaubas for management and use. Villagers in Chaubas reported that after 20 years of protection the status of the forest improved significantly, and that fuel wood and timbe,r which were scarce commodities before, are now in excess of local community demand. The villagers expressed the fact that without the forest, it would be impossible for them to rear livestock and apply compost in their farms. Besides income from forest products and employment in forest-based enterprises, people who are active and innovative are involved in collection of non-timber forest products (NTFPs) such as forest seeds, broom grass, *timur*[132] *(Zanthoxylum armatum)* and medicinal and aromatic plants, which are sold in the market for supplementary income. Data

[132] *timur* is a shrub or small tree, 6 m or more tall, which occurs naturally as an understory.

collected during fieldwork suggest that about 1.5% of low-income household income comes through the sale of NTFPs collected from community forest.

The status of the forest is now very much improved in Lakuri Rukh. The regeneration of broadleaf species has increased to 82% of the regenerated stock. However, since scientific thinning operations were not carried out, the forests became overstocked, which affected the growth and quality of timber. Hence there was a need to reduce the number of trees, in order to improve the health of the forest as well as to allow the broadleaf species to grow (Jackson et al. 1995, 4). There was a desire for a sustainable forest management practice that would boost household income and employment opportunities of the local communities, as well as improve the condition and quality of the forest (Ladley 1995, 32). In this context, CFUGs in Chaubas requested the Nepal Australia Community Forestry Project (NACFP) and District Forest Office (DFO), Kavrepalanchok to conduct a feasibility study for the establishment of a sawmill. The Project Coordinating Committee (PCC) meeting of the NACFP in September 1994 decided to undertake a feasibility study (Jackson, Vaidya, and Hunt 1995, 2). The study recommended the NACFP to proceed to establish a community sawmill at Chaubas. The general assembly (GA) of four CFUGs (Chapani Kuwa, Dharapani Hile, and Fagarkhola CFUGs from Chaubas, plus Rachhma CFUG from the Salle-Bhumlu Village Development Committee [VDC]) on 26 September 1994 jointly made a decision to request the NACFP to help establish a community owned sawmill at Chaubas. A sawmill management plan was prepared with the assistance of NACFP, and it was registered as an enterprise at District Cottage Industries Office, Kavrepalanchok. The NACFP had provided NRs 550,000.00 as a loan to the CFUGs for the establishment of a new sawmill, which was mainly used for buying machinery and equipment. After registration, the Chaubas- Bhumlu Community Sawmill was established in 1996 with an agreement between the four CFUGs, and was the first sawmill in Nepal ever owned by community forest user groups (Van Eijnaten, Acharya, and Shrestha 2001, 1). Local people also made voluntary labor contributions during the construction of the sawmill. According to the agreement between the sawmill and CFUGs, each CFUG had to provide 400 cu ft of log timber annually to the sawmill at the rate of Rs. 50/- per cu ft, including transportation of log timber up

to the premises of the sawmill. The income earned from the sawmill would be divided equally among the four CFUGs which owned the mill. Although the Lakuri Rukh CFUG was not an owner of the community sawmill, it also negotiated with the sawmill to provide log timber. From 1996/97 to 2004/05, the sawmill processed about 67,151cu. ft of log timber and earned a total income of NRs 9,217,160 (US$ 124,556).

According to the villagers, the establishment of the sawmill totally changed the face of the Chaubas village, creating a new avenue of employment and income earning opportunities to local people. Out of the total 9.2 million Rupees earned by the sawmill between 1996/97 and 2004/05, about 1.84 million Nepali rupees were spent on wages, which represented about 28,000 person days of employment.

Table 7.20: Income and Employment Generated by the Community Sawmill at Chaubas, Kavrepalanchok

Year	Total log timber processed (Cu. Ft)	Total income (NRs)	% of total income	Employment (man days)
1996/97	1,863	233,904	3	936
1997/98	16,908	1,560,341	17	6,241
1998/99	13,981	1,853,476	20	7,414
1999/00	4,745	959,879	10	2,743
2000/01	10,685	1,539,213	17	4,398
2001/02	2,177	137,385	1	393
2002/03	9,540	1,120,770	12	2,242
2003/04	5,143	855,879	9	1,712
2004/05	2,110	956,313	10	1,913
2005/06	0	-	-	-
Total	67,152	9,217,160	100	27,990
Total (US$)		*124,556*		

Source: Compiled from the sawmill records

Before the establishment of the sawmill in Chaubas, most of the houses in the village were thatched roof. Now, most of these have been converted into corrugated tin, made possible by the income earned from working in the sawmill as well as in community forest management activities. Previously, most of the households in Chaubas did not have furniture such as tables, beds, shelves or benches in their home; however, after the establishment of sawmill, most households constructed new houses, repaired existing homes, made furniture,

animal sheds and other household furniture needs from the sawn timber obtained from the sawmill.

7.6.3.1. Contribution of Community Sawmill to Livelihoods during Pre/early and Late Conflict Period

The community sawmill in Chaubas was operational from 1996 onwards, and provided numerous benefits to local people, as well as to people in neighboring villages. When the sawmill was in operation, 7 persons had full time employment and about 18 persons in each CFUG obtained casual employment. An additional 4 people were employed for the transportation of log timber to the sawmill. The community sawmill in Chaubas was an example of community owned forest-based enterprise, benefitting the local users directly. However, the sawmill closed in September 2005, directly affecting income and employment at Chaubas.

Reasons for Closure of sawmill

In the first few years of operation, the sawmill was functioning smoothly and repaying the loan of NRs. 400,000 to NACFP. From discussions with CFUG executive committee and ordinary members and district forest office officials, and from studies of sawmill records, a number of issues have been identified as likely reasons for the closure of sawmill. The sawmill management team is made up of two representatives from each participating CFUG. While nominating representatives, CFUGs did not pay much attention to the professional capacity or leadership qualities of representatives. As a result, those who represented the CFUGs on the sawmill committee could not play an active role in sawmill management, and consequently the monitoring mechanisms as well as financial management and business plans were poor. The key positions on the sawmill management team were occupied by a few members of the elite. General CFUG members were critical towards sawmill leadership, mainly because of lack of transparency, poor management and mismanagement of funds. Moreover, the sawn timber was sold on credit without maintaining a proper inventory of transactions, and no financial statement was prepared on a regular basis. Thus,

the participating CFUGs did not have a clear picture of business plans and the profit and loss scenario of the mill. There was also a lack of coordination between the sawmill management team and the CFUGs, and an absence of proper monitoring mechanisms. When the sawmill was facing those internal problems, the Maoists intervened in the sawmill management. The Maoists instructed that the mill must operate under their supervision and should provide tax and donations to their local Jan Sarkar, if the CFUGs wanted to operate the mill. As the financial discipline of the sawmill was not satisfactory in the eyes of the general public, the Maoists used the situation to convince ordinary people that there was a lack of transparency in the mill operations. They also accused some members of the sawmill management team of taking undue financial advantage from the mill. The sawmill management team failed to provide up to date financial statements, which made the Maoists even more suspicious of the management team. The mill officials said that the Maoists forced the sawmill management to provide NRs 225,000 to the Maoist Jan Sarkar, to be returned once the war is over. When the Maoists intervened and also took large sums in donations, the mill management became unable to make payments to the CFUGs that were its shareholders. When the CFUGs could not get payment for the timber supplied, they stopped providing timber to the mill, which ultimately forced the sawmill to cease operating.

In the face of the Maoists' tough approach towards the sawmill, CFUGs in Chaubas adopted a strategy to completely stop or minimize the thinning practices in the community forests, as a measure to avoid the double tax burden. Nevertheless, after the closure of the sawmill, Lakuri Rukh did continue its forest thinning practices, with an informal understanding with the Maoists which allowed them to sell the log timber to the outside market. The data show that 72% of the total timber processed was carried out during pre/early conflict period (1996 – 2001) and 28 % during the late conflict period respectively (2002 – 2006), which indicates that sawmill operation was significantly impacted by the conflict. From all the available information and discussions with stakeholders, it can be concluded that the main reasons for closure of the sawmill were elite domination, weak control and mismanagement of funds, lack of monitoring, and lack of transparency.

7.6.3.2. Community Forestry Based Employment at Lakuri Rukh CFUG

Between 1995/96 and 2004/05, Lakuri Rukh CFUG created about 9,892 person-days of work for local people. Out of total employment generated, 69% of the employment was created during the pre/early conflict period, while 31% of employment was generated during late conflict period (see Table 7.21).

Table 7.21: Employment Generated by Lakuri Rukh CFUG during Pre/early and Late Conflict Periods

Activities	Total employment generated	Pre/early conflict (1997/98 -2000/01)		Late conflict (2001-2004/05)	
	Person days	Person day	% of total	Person day	% of total
Forest management	6,972	5,336	54	1,636	17
Community development	2,920	1,460	15	1,460	15
Total	9,892	6,796	69	3,096	31

Source: Calculated from Lakuri Rukh CFUG records

Economic Valuation of Forest Products

The contribution of the community forest to the farming system and livelihoods of local people has been discussed in earlier case study chapters. This study suggests that dependency of households on community forest increased with remoteness and distance from the market. The households in Lakuri Rukh are more dependent on community forest than those in the other case study sites, as more than 90% of Lakuri Rukh households depend on CF for household energy needs. Similarly, out of the total household income in Lakuri Rukh CFUG, 33 % of household income comes from the combined agriculture and livestock sector, which is largely supported by community forests. The consumptive value[133] of forest products and NTFPs have been calculated based on the work of (Gregersen et al. 1995; Murthy et al. 2005, 1577), using the per unit current local price of the particular forest products multiplied by the amount of forests products used by each household surveyed. The survey data suggest that on average, 11% of household income is supported by CF (see Table 7.17).

[133] The "consumptive value" is defined as the quantity of forest products directly obtained and used by households.

However, as in the other case studies, the contribution of CF to household income is greater among lower-income households than middle and upper-income households (see Table 7.18). As the lower-income households have smaller land holdings and less area allocated for *kharbari*, their dependence on the community forest is high, whereas households from middle and upper-income groups fulfil some of their demand for forest products from the trees on their private land.

Table 7.22: Mean Consumptive Value of Forest Products (NRs) in Lakuri Rukh CFUG

Source of income	Low-income	Middle-income	Upper -income
	Amount (NRs)	Amount (NRs)	Amount (NRs)
Timber	833	933	567
Fuel wood	4,667	4,067	2,667
Fodder	933	817	958
Grass	1,400	1,383	1,058
Leaf litter	1,583	1,742	1,892
NTFPs	367	367	267
Total	9,783	9,308	7,408

Source: Fieldwork by author, 2008

Data further indicate that there was a reduction in the consumptive use value of community forest products during the late conflict period to all socio-economic categories, as compared to the pre/early conflict situation. However, the reduction in the consumptive value of forest is lower for lower-income households as compared to other categories of income groups.

Table 7.23: Consumptive Value of Forest Products (NRs) by Income Category during Pre/early and Late Conflict Periods in Lakuri Rukh CFUG[134]

Products	Low income			Middle income			Upper income		
	Pre/early conflict	Late conflict		Pre/early conflict	Late conflict		Pre/early conflict	Late conflict	
	Amount (NRs)	Amount (NRs)	Change (%)	Amount (NRs)	Amount (NRs)	Change (%)	Amount (NRs)	Amount (NRs)	Change (%)
Timber	533	833	+56	933	933	-	2,100	567	-73
Fuel wood	5,550	4,667	-16	5,500	4,067	-26	3,534	2,667	-25
Fodder	1,317	933	-29	1,367	817	-40	1,567	958	-39
Grass	2,133	1,400	-34	2,250	1,383	-39	2,200	1,058	-52
Leaf litter	2,283	1,583	-31	2,550	1,742	-32	2,867	1,892	-34
NTFP	33	367	-1,000	133	367	-175	333	267	-20
Total	11,850	9,783	-17	12,733	9,308	-27	12,600	7,408	-41

Source: Fieldwork by author, 2008

7.7. Environmental Sustainability of Lakuri Rukh Devi CFUG

The majority of the households that belong to Lakuri Rukh CFUG admit that after the establishment of the community forests, the local environment has been improved. Besides household benefits, community forests are providing environmental services such as greenery, biodiversity conservation, erosion and landslide control, which are vital for their livelihoods. During the course of interviews with CFUG members, most of the respondents said that the number of wildlife species has increased substantially inside the community forest. According to informants they encountered following wildlife during their visits to community forests.

[134] The consumption value of forest products used by households in Lakuri Rukh CFUG at Chaubas was calculated based on the local value of the particular forest products as assessed by villagers. . After the discussion with general members and CFUG committee members, the price of the forest products was fixed at the rate of NRs 50/- per cu ft of timber and a *bhari* of fuel-wood respectively and NRs 25/- for a *bhari* of fodder, leaf-litter, and grass.

Table 7.24: Table: 7.24: List of Wild life Sighted by Informants at Lakuri Rukh CFUG

Local name	English name	Scientific name
Birds		
Kalij	kalij pheasant	*L. l. leucomelanos*
Jureli	Red vented bubbul	*Pycnonotus jocosus*
Lampuchree	Yellow billed Bule Magpie	*Urocissa flavirostris*
Dhukur	Oriental Turtle Dove	*Streptoplia orentalis*
Mammals		
Bandel	Wild boar	*Sus scrofa*
Bagh	Tiger	*Panthera tigris*
Chituwa	Leopard	*Panthera pardus*
Ratuwa Mriga	Barking Deer	*Muntiacus muntjac Zimmermann*
Shyal	Jackal	*Canis aurevs*

Source: Source: Information compiled by author, 2008

During focus group discussions and interviews in Lakuri Rukh CFUG, all respondents said that after the establishment of community forest, the watershed condition significantly improved, and that the incidence of landslides, mudflow, and erosion has been largely averted. One of the informants recalled from his childhood that during every monsoon rain there used to be numerous landslides, floods and erosion around the village. Now, even in the monsoon season, there is clear water running in the rivulets, which is mainly due to improvements in the watershed condition. Moreover, the local environment has become pleasant due to greenery and the improved status of the forests. The size of trees, density, and species composition has been significantly increased after the establishment of community forests. All CFUGs in Chaubas, including the Lakuri Rukh CFUG, have been involved in timber sale to the local community sawmill and outside communities, and have been able to earn substantial incomes. If proper scientific management of the forests is carried out, there is a strong prospect that the CFUG can improve the livelihoods of its members, carry out community development activities, and enhance local employment opportunities. It seems that community forests would be able to provide economic benefits and environmental services at the same time, if the CF is managed is a sustainable way through the active involvement and participation of local people in community-based forest co-management processes. A forest inventory carried out by Lakuri Rukh CFUG and District Forest Office (DFO) staff had found the status of trees in the community forest as follows:

Table 7.25: Status of Trees per ha in the Lakuri Rukh Community Forest

Name of species	Total no of trees/ ha	Total volume (cu. feet)	Annual increment (cu. feet)
Pinus patula	330	7169	353
Pinus wallichiana	261	2119	71
Others(Alnus nepalensis, Schima wallichii, *Michelia champaca,and Jhigane)*	67	1342	14
Total	658	10,630	438

Source: Lakuri Rukh CFUG operational plan, 2006

I have visited the Lakuri Rukh community forest and found that the regeneration of broadleaf species is very promising. The improved regeneration is mainly due to proper conservation, improved soil condition and improvement in the micro-climate of the forests. The CFUG committee members said that they have planned to replace the existing pine forest with broadleaf species within the coming 15-20 years by adopting a gradual thinning regime. An assessment carried out by the CFUG with technical assistance from forestry technicians from District Forest Office, Kavrepalanchok found the status of regeneration inside the community forest as follows:

Table 26: Status of Regeneration in Lakuri Rukh CF, Chaubas

Local name	Botanical name	No of trees /ha	
		Young	Mature
Pate salla	*Pinus patula*	834	-
Paiyu	*Prunus cerasoides*	415	-
Chhap	*Michelia champaca*	1,419	168
Lankuree	*Fraxinus floribunda*	332	-
Chilaune	*Schima wallichii chois*	192	51
Others (Jhigane, Aangeri)	*Eurya cerasifolia*	83	-
Total		3,275	219

Source: (Lakuri Rukh CFUG 2006, 4)

7.8. Conclusion

The southern aspect of the *Chaubas Danda* (hill) was without forests for decades, although the northern aspect was still reportedly good forest. Following the nationalization of private forest in 1957, local ownership of the forest was disturbed and within a decade most of the productive forests in Chaubas were destroyed by overuse and illegal harvesting. By the 1980s there was a severe scarcity of forest products in Chaubas, and the livelihoods of rural people were on the verge of collapse. People were forced to spend a whole day searching for a head load of fuel wood. The Nepal Australia Forestry Project (NAFP) launched an afforestation programme in the Chaubas region in 1979, and local people actively participated in conservation efforts. After the completion of the plantation program, local people continued conserving forest under informal arrangements, until legislative reforms resulted in hand-over of the Lakuri Rukh forest to the local community in 1995. Within a few years of the establishment of the community forest, the scarcity of forest products was completely resolved. Forest products now exceed community demands. During the field survey, focus group discussions and interviews were held with villagers representing different socio-economic groups, which indicated that CFUG members believed the distribution of forest products was fairly managed. Data on forest product collection suggest that the frequency of visits to the community forests were reduced during the late conflict period, and also that the amount of forest products collected declined, although there was no restriction from either of the contending parties against entering the community forests.

After the establishment of the community sawmill and implementation of forest management activities (thinning, pruning, felling, and transportation), employment opportunities were generated within the village and local people were able to enhance their household income. According to local people, the contribution of the community-owned sawmill played a major role in increasing household income and living conditions. Between 1995/96 and 2006/07, Lakuri Rukh CFUG created about 10,458 additional person-days of employment opportunities for local people. The money generated from the sale of timber has been invested in forest management and community development activities.

Community development activities sponsored through the CFUG fund have made a substantial contribution to education and rural road construction in the village. The support that the CFUG provided to the local school at Chaubas has greatly improved children's access to education.

The benefits that villagers receive through the use of forest resources, which have not been valued until now, were found to be higher than expected. The study shows that the consumptive value of forest products is higher among low-income households than for other income groups. Other benefits from CF are also emerging, such as NTFP collection, charcoal making and cardamom plantation, all as a result of community forest management.

Although the governance arrangement of the Lakuri Rukh CFUG is operating under democratic principles, a few weaknesses have been noticed in the process of community forest governance. Key positions in the CFUG committee, including chairman and secretary, have to date been monopolised by local elites and people from higher socio-economic groups. There is under-representation of women and socio-economically marginalized sections of the community in decision making bodies, especially in higher executive posts. Recently Lakuri Rukh CFUG has adopted a policy of broadening the scope of inclusion of socio-economically marginalized people in the CFUG executive committee; however, its impact has not been dramatic. In practice, there is some representation of occupational and ethnic castes on the CFUG executive committee; but they occupy only the lower executive positions. It was found that socio-economically advantaged and influential village elites were holding the key positions on a rotational basis among themselves. Those that belong to so called higher caste are continuing to occupy the key positions, although they represent a minority of the population.

Participation of women is gradually increasing in CFUG activities, which is mainly due to the empowerment of women through various workshops, training and awareness programs supported by the Nepal Australia Community forestry project. There was also pressure from the Maoists for the socio-economic transformation of the disadvantaged rural population during the insurgency

period. During the late period of conflict, forestry department and donor agencies also revised their policies and emphasized the participation of women and disadvantaged sections of the community in decision-making forums. Women's active roles in decision making are yet to materialize fully, as they occupy only lower positions in the CFUG committee at present. Nevertheless, women in Chaubas are increasingly active in all spheres of village life, and a number of saving and credit groups have been formed and run by women which are boosting their social status in the community. Donor-supported NGOs are also working with women's groups to assist them in increasing their income earning capacity by launching various income generating activities.

After the escalation of violent conflict, the management of community forests were under threat due to the worsening law and order situation in the village. Forest users had to live in an environment of constant fear, from both warring parties. The Chaubas area was mostly under the control of Maoists during the insurgency period; although the people were also affected by the acts of security forces. During the insurgency period, activities of the District Forest Office, Kavrepalanchok in Chaubas was almost paralysed. Most of the CFUGs in Chaubas, including Lakuri Rukh, conducted their general assembly once a year and committee meetings once a month before the emergence of conflict. However, in 2005 when the armed conflict was at its peak, they could not convene general assembly. The numbers of monthly CFUG executive committee meetings were also reduced. Maoists issued a notice that all CFUG has to work under their guidance and pay tax and donations to the Maoist Jan Sarkar (People's government). Despite these hardships, the Lakuri Rukh CFUG continued their forest management activities. They maintained a dialogue with the Maoists and negotiated with them by providing donations which allowed them to continue their work. The operation of the cooperatively owned sawmill was stopped during the period of conflict. Problems with sawmill management, and financial burdens imposed by the Maoists, 'lead to its closure'.

In the later stage of conflict, when the timber business was not profitable, most of the CFUGs in Chaubas including Lakuri Rukh reduced timber harvesting in order to avoid the double tax burden. During these difficult times, the Lakuri

Rukh CFUG had held several informal meetings with Maoist local leaders and tried to convince them to allow the CFUG to continue their forest management activities. In some cases they were successful and managed to operate thinning operations on the basis of informal agreements with the Maoists.

As the forest thinning operations slowed down during late conflict period, income was reduced. However, investment in community development projects was higher during the late conflict periods compared to the pre/early conflict situation. Data collected for this study show that although there was reduction in community forest employment during the late conflict period, CFUGs at Chaubas were able to continue their forest management, maintain some employment for local people, and contribute to community development projects even in such a difficult time.

For the last 2-3 decades, off-farm employment, especially working in the capital city and other parts of Nepal, has become the dominant source of livelihood strategy for the majority of people in Chaubas. Agriculture is now barely able to provide subsistence and no longer provides adequate income to support local livelihoods in Lakuri Rukh CFUG. However, the contribution of the community forest to the overall farming system is still significant, as the survey found that 33 % of total household income comes from the combined agriculture and animal husbandry sector, which is largely supported by community forestry. The community forest itself provides 11% of total household income. In recent years, especially after the emergence of armed conflict in 1996, seasonal migration within the country and overseas employment has increased rapidly. During the late conflict period, overseas employment emerged as a major source of income for middle and upper-income households; whereas labouring (primarily local and casual) and animal husbandry became major sources of income for low-income households. Generally, it has been believed that the armed conflict negatively affected the income earning opportunities of households. However, this study found that there were increases of 1%, 48%, and 44% in the incomes of lower, middle and upper-income households respectively during the period of conflict. The major factor in the increase in household income for middle and upper-

income households was overseas employment[135]. This was not the case for people from lower-income households. Since lower-income households cannot easily invest in overseas employment, their main sources of income were labouring and animal husbandry, especially small animals and poultry. This study found that opportunities for working as wage labourers increased during the late conflict period, as there was a shortage of manpower due to labour migration and population displacement as a consequence of the conflict.

It is evident that the local environment has significantly improved since the inception of community forestry program in Lakuri Rukh CFUG, which is demonstrated through the improvement in biodiversity, greenery, watershed protection and the supply of forest and non-timber forest products to local people. People reported increased numbers of wildlife, and species that were not present before. With the exception of a few localized incidents of fire, community-based forest governance was functioning smoothly even during the late conflict period.

The Lakuri Rukh case study demonstrates that a completely degraded forest can be converted back to a green and healthy forest within a span of three decades. This also demonstrates that community-based forest management, with supportive national legal instruments providing authority of forest governance and management to local communities, and involvement of government and donor agencies in partnership arrangements with local people, can produce the desired outcome of sustainable forest management and use.

The most interesting thing that came from this study was that during the period of the Maoist insurgency, while various planned activities of the government could not be implemented in the villages, the Lakuri Rukh CFUG was able to

[135] Migration is not a new concept and practices in Nepal, however, within last few decades, especially after 1990s; there is a sharp rise in the overseas employment. It is estimated that about a half million people at the moment are working in third countries in different capacities excluding about one million people working in India. The number of people going to overseas employment has been increased after the onset of Maoist insurgency. As many people displaced from the village and those who want to escape from the impact of civil conflict went to overseas employment. The main pushing factors for the overseas employment are lack of employment opportunities in the country, declining agricultural productivity, low economic growth, conflict and desire for a better life. During the period of armed insurgency (1996 – 2006) there was rise in the number of people from the rural areas going for overseas employment mainly due to the reason of avoiding the conflict as well as in the hope of earning additional income for the family.

continue with forest management and resource governance. The other interesting thing to note is that the Maoist insurgency did not substantively change actual CFUG governance arrangements. The forest governance structure of the Nepalese Department of Forest was almost dysfunctional during the conflict period. The Lakuri Rukh CFUG at Chaubas was totally under the control of insurgents. However, the governance structures of the CFUG were largely stable. The Lakuri Rukh CFUG demonstrated their resilience by maintaining dialogue and bargaining with the Maoists. It was observed that community-based forest governance is deeply rooted in the minds of the community because of its participatory and bottom-up approach, which makes it more adaptive and resilient to coping with disturbances. Maoists could not dismantle the governance structure of CFUG in Lakuru Rukh because the governance processes and practices adopted by the community forest program at Lakuri Rukh were effective, and because the program had a deep connection with local livelihoods. This case study reinforces the line of argument that institutions which are based at grass roots level and which function on participatory democratic principles have more bargaining power as well as adaptive capacity to cope, even under the pressures of armed conflict, than centralized institutions that lack these features.

Chapter 8

Comparative Case Studies of Three Community Forest User Groups (CFUGs) in the Middle Hills of Nepal

The three Community Forest User Groups (CFUGs) case studies discussed in the foregoing chapters are considered here for comparative analysis of resource governance, livelihood security and environmental sustainability outcomes of the community forestry program. The three CFUGs chosen for study have different attributes, which makes comparison among the cases interesting. Among the three CFUGs, Sharada Devi is least affected by the political conflict, since it did not experience direct control by either the Maoist insurgents or Nepalese security forces. Sharada Devi is located near the district centre and has easy access to the market, and therefore its dependence on the community forest is less compared to the other case studies. The second case study, Hile Jalajle (Ka), was mostly under the dominance of Nepalese security forces; it is located at a moderate distance from the district centre and market and has relatively greater dependence on the forest. The third case study, Lakuri Rukh Bhulbhule, was under the control of the Maoists, and is located farthest from the district capital with limited access to the market.

This chapter will analyze and compare: the effectiveness of community forestry related governance processes and practices; the contribution of community forests to fulfilling demands for forest products and improvement in the livelihoods of rural households; and the impact on environmental services provided by community forests. This analysis of community-based forest governance processes and outcomes during the pre/early and late conflict periods takes place in the context of the decade long Maoist insurgency, and provides an indication of the degree of resilience of local forest governance institutions.

8.1. Introduction

The case study district of Kavrepalanchok has been the pioneering district with respect to early implementation of the community forestry program in Nepal. As such, community-based forest governance is relatively mature in this district. The three CFUGs selected for the study provide the opportunity to compare the effectiveness of forest management reforms, and particularly the role of CFUGs under three different political scenarios during the Maoist insurgency.

The Sharada Devi CFUG was least affected by the armed conflict. There was no marked influence or domination by either of the conflicting parties. Compared to the other two case study sites, Sharada Devi CFUG is located closer to the district centre and is relatively accessible to the market. Based on the sample survey carried out for this research, the majority of the households in Sharada Devi belong to the middle income group (54%) with the percentage of people belonging to high-income and low-income groups is 26 % and 20 % respectively. The per capita forest area is about 0.20 hectare, which is lower than for the other case study sites. The forest is mainly composed of broadleaf species, while in the other two sites pine species dominate. The household dependency on forest for fuel-wood is 69%, which is lower compared to the other two sites. Beside fuel-wood, CFUG members in Sharada Devi use LPG gas, bio-gas and sawdust as a source of household energy. Most of the land in Sharada Devi CFUG is productive. Salaried/waged employment, self-employment and dairy farming are the three major sources of household income in Sharada Devi CFUG according to the survey. However, farming (including agriculture, animal husbandry and poultry) provides 38.59% of total household income. The direct dependence of households on the forest in Sharada Devi CFUG is low when compared to the other two study sites discussed earlier.

The second case study Hile Jaljale CFUG is connected by a dirt road to Banepa, a commercial town of Kavrepalanchok district. Although most of the area is sloping terrain, about 14 sq. km (70%) of the area is under cultivation. Agriculture and animal husbandry are the main sources of livelihood for more than 90% of the residents. Other income sources include wage labor, public

service, overseas employment, and small business. The bulk of household income is obtained through the sale of milk, potato and vegetables. During the period of the Maoist insurgency, this CFUG was dominated by the Nepalese security forces and part of the CF was declared as a training zone by the government.

The third case study, Lakuri Rukh CFUG is relatively remote and has the least access to the market. During the period of armed insurgency the Lakuri Rukh CFUG was under the influence of the Maoists. The literacy rate of the household head in Lakuri Rukh CFUG is low compared to Hile Jaljale (Ka) and Sharada Devi CFUG. More than 90% of the households in Hile Jaljale (Ka) and Sharada Devi use electricity, while Lakuri Rukh CFUG does not have access to electricity as this village is not connected with the national electricity grid. Fuel-wood is the major source of energy for cooking in Lakuri Rukh, as 98% of the households still use fire-wood as a principle source of energy for cooking compared to 69% (Sharada Devi) and 96% (Hile Jaljale) in the other two villages. Among the case study sites, Hile Jaljale (Ka) and Lakuri Rukh community forests contain pine species, while Sharada Devi community forest is dominated by broadleaf species, and biodiversity is higher than in the other two CFUGs.

The age of the forest in all three sites is almost the same, varying from 20- 25 years. The per capita community forest area is 0.05, and 0.140.08 ropani[136] in Sharada Devi, Hile Jaljale (Ka) and Lakuri Rukh CFUGs respectively. The regeneration of the broad leaf forest is quite encouraging in all three case study CFUGs.

Table 8.1: Bio-physical Characteristics of Case Study CFUGs

Description	Sharada Devi	Hile Jaljale (Ka)	Lakuri Rukh
Forest handover date	July 3, 1995	January 1991	July 8, 1996
Distance from District Capital	5	12	45
Total forest area (ha.)	44.25	118.14	63
Forest area/household	0.26	0.49	0.86
Per capita forest area/ha	0.05	0.08	0.14
Number of forest blocks	5	7 Blocks (27 Sub-blocks; 7 Working Circles[137])	5
Aspect	North-east	South – West and North-East	North – East and South - West
Slope (degrees)	20 - 40	10-25	10 - 45
Canopy coverage (%)	60	65	35-40
Age of forest (years)	25 years	20	23 years
Average altitude (meters) above sea level	1500	2020	2100
Major forest species	*Castanopsis indica (Roxb.), Schima wallichii, Pinus spp., Myrica esculenta, Myrsine semiserrata wall*	*Pinus patula, Pinus walichiana, Schima wallichii,rhododendron, Castanopsis indica, Aangeri, Kafal*	*Pinus patula, Pinus walichiana, Alnus nepalensis, Michelia champaca*

Source: Lakuri Rukh CFUG (2006); Sharada Devi CFUG (2008); Hile Jaljale (Ka) CFUG (2001)

Table 8.2 presents the socio-economic status of households comprising the sample survey in the three CFUGs. It appears that the overall indicators of socio-economic well-being of Lakuri Rukh CFUG are lower compared to the other two

[136] 1 *ropani* is equivalent to 500 square meters, making 20 *ropani* to the hectare.

[137] A Working Circle is a unit of forest within community forest and includes blocks and sub-blocks, divided according to different management objectives. Community forest has been divided into permanent blocks using permanent landscape features, and semi-permanent sub-blocks with homogenous forest types and conditions. A working circle consists of several sub-blocks in order to meet specific objectives assigned for the particular sub-blocks.

case study CFUGs. Also, the dependency of households on community forest is high in Lakuri Rukh CFUG as compared to the other two sites. It can be concluded from the data that those CFUGs which are located in remote areas and with less access to the market are more dependent on community forest for household energy needs (primarily firewood) than CFUGs that are comparatively less remote and have easy access to markets.

Table 8.2: Household Characteristics at Case Study Villages (mean values from samples)

Attributes	Sharada Devi	Hile Jaljale	Lakuri Rukh
Household size (no.)	6	7	6
Annual household income (NRs)	151,915	111,081	72,187
Annual household income (US$)[138]	2,053	1,501	975
Average age of household head (yrs)	55	48	47
Literacy rate of household head (%)	71.1	71.0	57.8
Livestock holdings (no.)			
Buffalo	0.8	1.1	0.6
Cow	1.0	1.1	0.5
Ox	0.1	-	0.3
Goat/Sheep	3.3	3.8	5.3
Pig	0.1	0.1	0.3
Chicken	18.1	0.8	9.5
Household with:			
Electricity (%)	98	93	13 (solar lamp)
Piped water (%)	82	96	96
Telephone (%)	82	69	29
Audiovisual owned (%)			
Radio (%)	73	93	96
Television (%)	89	82	18
Source of household energy (%)			
Fuel-wood	69	96	98
LPG Gas	31	2	2
Briquette	-	2	-

Source: Author, Field survey, 2008

[138] 1 US$ equivalent to Nepali Rupees(NRs) 74

8.2. Socio-economic Profile of the Study Sites

A caste-based social system still prevails in many parts of South Asia, including Nepal. Discrimination on the basis of caste, gender and ethnicity presents a serious impediment to the socio-economic development of rural areas. Most economic resources are controlled by the upper castes, which makes marginalized ethnic/caste groups vulnerable and disillusioned (Pradhan and Shrestha 2005, 1-6).. The 1962 Constitution and the 1963 new Civil Code legally abolished discrimination based on caste, ethnicity, religion and gender (Pradhan and Shrestha 2005, 6); however, discrimination continues to exist to varying degrees (Adhikari and Di Falco 2009, 182). The caste/ethnic composition of the case study communities is presented on Table 8.3. In this study, I have attempted to investigate the participation and representation of disadvantaged caste and other socio-economic groups in community forest governance, to be discussed later in this chapter.

Table 8.3: Caste Composition in Case Study CFUGs (%)

Location	Higher-caste	Occupational caste (lower caste)	Ethnic minorities
Sharada Devi CFUG	88	2	10
Hile Jaljale (Ka)	92	7	1
Lakuri Rukh	24	7	69

Source: Compiled from CFUGs records

A wealth ranking of households shows that 54% in Sharada Devi belong to middle-income groups, while 20 % and 26% of households belong to low-income and high-income groups respectively (see Table 8.4). In Hile Jaljale (Ka) 58% of households belong to middle income, 12 % to high income and 30 % of households to low-income groups. In Lakuri Rukh, 52% of the households belong to the low-income group and the remaining 48% are roughly evenly divided between high and middle income groups. These statistics indicate that those CFUGs which are in close proximity to the district centre and have easy access to market, are economically in a better position relative to those CFUGs which are remote and have limited access to the market. Wealth ranking shows

that Sharada Devi has the lowest proportion of low income households, with Hile Jaljale in an intermediate position, and Lakuri Rukh having twice the proportion of low income households of the other two CFUGs combined.

Table 8.4: Wealth Ranking of CFUGs

Name of CFUG	Upper-income (%)	Middle-income (%)	Low-income (%)
Sharada Devi	26	54	20
Hile Jaljale (Ka)	12	58	30
Lakuri Rukh	23	25	52

Source: Compiled from CFUG record

Data show that CFUGs which are situated relatively further from local markets have larger upland and kharbari holdings[139] compared to CFUGs which are nearer to the district centre. However, the most remote CFUG has the least irrigated land (see table 8.5).

Table 8.5: Mean Land Holding per Household in three CFUGs

Land Category	Mean land holding/household (ropani)[140]		
	Sharada Devi	Hile Jaljale (Ka)	Lakuri Rukh
Irrigated land (*Khet*)	2.1	3.3	0.8
Unirrigated land	0.3	0.1	-
Bari (upland)	4.5	4.8	12.4
Kharbari	0.3	0.9	7.6
Total	7.1	9.1	20.0

Source: Author's field survey 2008

In 1969, planting was carried out in the degraded forest area presently occupied by Hile Jaljale (Ka). In Chaubas (Lakuri Rukh) and Sharada Devi, the Nepal Australia Community Forestry Project launched plantations in 1979 and 1989 respectively. Among these, the Sharada Devi forest is mainly a regenerated forest. Local people in all three case studies actively participated in reforestation and became informally involved in forest conservation and management based on local management systems. However, they did not initially have formal

[139] *Kharbari* is a private land assigned for growing thatch grass and trees. Farmers use grass, fuel-wood and timber produced from the *kharbari* when such products are not available from the communal forests lands, especially during the period of shortage.
[140] A traditional unit of land area in South Asia, one *ropani* is as 500 square meters, making 20 *ropani* to the hectare

authority over what was still officially state forest. Finally, after the introduction of community forestry policy by the state, the Sharada Devi, Hile Jaljle (Ka) and Lakuri Rukh forests were handed over as community forests in 1991, 1995 and 1996 respectively. After the handover of forests, the authority over forest management legally came under the practical management of the CFUGs. In all of the three case study sites CFUGs have developed their own local rules of forest management, following the general principles and guidelines developed by the Department of Forest.

During three decades since community forestry was initiated in Nepal, local communities, the forest department and donor agencies have been working hand in hand to strengthen the community forestry program. The community forestry program adopted a community based co-management approach between the state forest department and community forest user groups, in which government has devolved substantial authority over forest governance – including rule making on management and use of forest resources, enforcement and conflict resolution – to community user groups. Government in this case acts as the provider of a conducive policy environment, as a provider of technical and financial assistance, and as a facilitator of capacity-development for the CFUGs. In this respect the management approach adopted by community forestry in Nepal can be termed community-based forest co-management. The following sections present a comparative examination of the community forestry program at the three case study sites with respect to governance, livelihoods and environment, based on qualitative as well as quantitative information collected during field research.

8.3. Resource Governance Outcomes

Good forest governance has been a great concern among resource planners, environmentalists, foresters, social analysts and political scientists. As communities are heterogeneous, the important concern in decentralized forest governance is who participates in decision-making, and who benefits [141] (Larson and Soto 2008, 214). It is argued that participation does not necessarily guarantee sharing power (Mulder 1971, 31; Potter 2008, 23), but for participation to be meaningful, there should be open dialogue, active voice and participation of people in the decision making process (Stiglitz 2002, 165; Shackleton et al. 2002, 5-6; White 1996, 7; Pateman 1970, 43). Studies show that to ensure sustainable management of forest resources as well as community development, a high level of community participation and fair distribution of accrued benefit over time is necessary (Frasera et al. 2006, 126). During fieldwork, data were collected using household surveys, focus group discussions, interviews, and secondary data collection. Significant indicators of decentralized forest governance, including participation of CFUG members in decision making processes, frequency of CFUG General Assembly and Executive Committee meetings, access and benefit sharing policies, and CFUG income and expenditure, have been analyzed and compared below. The outcomes of community-based forest co-management for the three sites are summarized in Table 8.6.

[141] Participation is defined by (Stiglitz 2002, : 165) as "participation in the broadest sense, to encompass transparency, openness, and voice in both public and corporate settings".

Table 8.6: Comparison of Resource Governance Outcomes in Case Study CFUGs between Pre/Early and Late Conflict Periods

Resource Governance Outcomes			
	Sharada Devi	Hile Jaljale (Ka)	Lakuri Rukh
1.Participation in Decision Making			
1.1. Representation of women in CFUG Executive Committee	Increases	Same	Increases
1.2.Representation of lower castes in CFUG Executive Committee (EC)	Same	Same (increase after 2006)	Decreases
1.3.Representation of higher caste in CFUG Executive Committee (EC)	Same	Same	Increase
1.4.Participation of women in CFUG General Assembly (GA)	Increases	Same (increase after 2006)	Same
1.5. Frequency of GA meetings	Same	Slight decrease	Decreases
1.6. Frequency of EC meeting	Decreases	Decreases	Decreases
2.Governace Processes, Equity, Access and Benefit Sharing Mechanisms			
2.1. Frequency of GA meeting	Same	Same (could not convene in 2002/3 and 2003/04)	Same (could not convene only in the year 2005)
2.2. Frequency of EC meeting	Decreases	Decrease (increase after 2006)	Decreases
2.3. Quantity of forest products collected	Increases	Decrease	Decreases (but NTFP increases)
2.4. General impact of insurgency on CFUG institutional arrangements	Same/stable	Same/stable	Same/stable
2.5. CFUG rule enforcement capability	Same	Same	Same
2.6. Status of CFUG income	Slight decrease*	Slight decrease	Decrease
2.7. Expenditure and community development activities	Increase	Increase	Increase
	1.	2.	3.

*In real terms Sharada Devi CFUG incomes remained the same. The reduction in income is only through the discontinuation of household contribution for the salary of forest watchman.

On the basis of focus group discussions and interviews with CFUG members in the three case study sites, it was found that the participation of local people in CFUG activities was regarded as satisfactory from the outset of the community forestry program to date. According to CFUG members, the reason for sustained participation is because of the important role that the community forests play in supporting the farming system, the livelihoods of local people, and as a provider of environmental services. From the 1960s until the mid-1980s, there had been a severe shortage of fuel-wood, fodder, and timber in the Middle hills of Nepal (AusAID 2006, 1). The national forest inventory indicates that the forest declined drastically from 6.4 million hectares (45%) in 1964 to about 4.1 million hectares in 1975, a drop of over one-third in just a decade (cited in Wallace,

1983, 221). After the popularization of the theory of Himalayan Environmental Degradation, a reafforestation program was initiated in Kavrepalanchok and Sindhu Palchok districts, with support from Nepal Australia Forestry Project. This study revealed that after the plantation program, local people in all three case studies actively participated in forest protection through an informal understanding with the Department of Forest. When the forest was officially handed over, each CFUG prepared the constitution and operation plan through the users' assembly. These communities devised local rules of forest governance, adapting forest department guidelines to local conditions. They prepared benefit sharing mechanisms and implemented a range of community development and forest management activities.

8.3.1. Election of Executive Committee and Representation of Women and socio-economically marginalized groups in Decision Making Process

The decision making processes of the CFUGs are guided by two documents, the CFUG Constitution and Operational Plan (OP). The study found that CFUGs in all case study sites have adopted democratic principles. CFUG executive committee members were elected by consensus through the meeting of the GA. However, in one instance, voting was conducted to elect the Chairman in the Lakuri Rukh CFUG. In most cases, there is no competition to serve on the CFUG executive committee, as this is a voluntary position. However, local elites and socio-economically advantaged are better positioned and more interested to serve in the higher positions of the CFUG like Chairman and Secretary, as these positions confer social status in society. Generally, it was found that people are more interested to serve on the committee in those CFUGs which have substantial forest resources and greater income. There is a barrier for women and people from lower socio-economic strata to take on leadership positions in the CFUG committee, mainly due to time constraints, low level of education, and low social status. This suggests that until the economic status of women and other disadvantaged groups is enhanced through various income-generating activities, and until they are provided with economic and educational opportunities, their active participation and involvement in CFUG leadership roles will be difficult to achieve**.**

Women's participation in the general assembly (GA) meetings was found to be much lower than that of their male counterparts in all three case study sites. From 1994 to 2006, the average participation of women in the GA meeting of Sharada Devi and Hile Jal Jale (Ka) and Lakuri Rukh CFUGs was 9%, 11% and 28% respectively. However, since 2000 onwards, some reform has been undertaken by allocating a quota to women and lower caste on CFUG executive committees, and provision for nominating representatives from every hamlet. The Nepal Australia Community Resource Management and Livelihoods Project (NACRMLP) has played an important role in fostering the 'second generation' issues of equity and progressive governance practices in community forest user groups in the case study CFUGs. Recently, all CFUGs have adopted a policy of nominating at least 33% women representatives and 10% from disadvantaged groups. Moreover, CFUGs at all three sites have made a decision to replace the committee membership in 2 to 3 year cycles, and barring those who are office bearers in the present executive committee from becoming candidates in the new committee. However, in the past, local elites and influential individuals have tended to take leadership positions in CFUG committee by turn. The impact of the changed policy remains to be seen. Data collected from the CFUG records show that in comparison to the pre/early conflict period, overall participation of women in CFUG Executive Committee (EC) and General Assembly (GA) meetings increased during the intense late conflict period. However, representation of lower caste and ethnic groups is not encouraging, except in Lakuri Rukh. It is clear from the CFUG data that representation of lower caste and ethnic groups in CFUG, EC and GA has seen greater involvement especially in Maoist stronghold areas like in Lakuri Rukh in comparision with other case study CFUGs. The patron-client relationship which existed in Nepalese society for centuries has not changed much in the case of community forestry programme as focus of the Maoists during the conflict period was mainly on the political movement rather than on reform in community forestry in a systematic manner. Nonetheless, social norms and relationships among different socio-economic groups have seen dramatic changes over this period, especially in the Maoist stronghold area.

Table 8.7: Participation in CFUG Decision Making Forums by Gender and Class (%)

Description	Sharada Devi		Hile Jaljale (Ka)		Lakuri Rukh	
	Pre/early conflict	Late conflict	Pre/early conflict	Late conflict	Pre/early conflict	Late conflict
Women's representation in EC	13	29	12	24	22	31
Women's participation in GA	8	10	3	12	27	22
Representation of lower caste in EC	-	-	6	5	11	16
Representation of ethnic group in EC	1	-	-	-	44	47

Source: Compiled from Sharada Devi, Hile Jaljale and Lakuri Ruh CFUG record

It is found that women's participation in decision making forum is low; however they have influence on CFUG activities behind the scenes. One woman remarked that "we have more concerns about community forest than men. Although women's participation on the committee is less, we are always watching the decision of the committee closely and if we find decisions are not relevant we put pressure to change it". Evidence suggests that women's roles and status in these communities has been improving rapidly, mainly due to training programs and literacy classes. Women are now involved in operating saving and credit groups.

Across the three case studies, it was found that those CFUGs which had more support from the Forest Department and donor projects have been more efficient in conducting meetings, record keeping, financial transactions and overall management than those CFUGs which had limited support from either the Forest Department or Nepal Australia Community Resource and Livelihoods Project. At the same time, it also shows that those CFUGs which have relatively good income were found to be more active as in the case of Hile Jaljale (Ka) and Lakuri Rukh in terms of investment. But one thing ths is clear from the case studies is that CFUGs still need a great deal of capacity building in the areas of governance and community mobilization and social reform. This study also shows that CFUG executive committees were mainly occupied by men from upper-income groups and higher castes. Traditional elites have substantial control over the governance processes of the CFUGs. However, pressure from

the Maoists for overall socio-economic transformation, combined with second generation issues highlighted through research, led the government as well as donor agencies to shift their policies to increase the representation of women and marginalized people on CFUG committees. Generally, since 2006 the participation of women, lower caste and ethnic groups has been increasing.

8.3.2. Frequency of CFUG Executive Committee and General Assembly Meeting

The CFUG General Assembly (GA) and CFUG executive committee (EC) are the decision-making and program implementing bodies, whose functioning and frequency of meeting are important indicators of sustainability of community-based forest governance mechanisms established as part of the community forestry (CF) program. Data collected during fieldwork show that the GA meetings of the Sharada Devi CFUG convened regularly from 1993– 2006, while there was a slight reduction in the number of meetings of the EC during the late conflict period. Despite being adjacent to the Army Training School and controlled by the Nepalese security forces, the Hile Jalajle (Ka) CFUG was able to carry out GA meetings except in 2002 and 2003. There was also a reduction in the number of EC meetings in those two years. The Lakuri Rukh CFUG, which was under the influence the Maoists, did manage to carry out the GA and EC meetings regularly throughout the conflict period, with the exception of 2005. A slight reduction in the number of meetings of the executive committee was observed during the late conflict period. CFUGs could not convene the GA in some years, due mainly to a prohibition order issued by the District Administration Office (DAO) requiring that permission be obtained to organize mass meetings, rather than due to pressure from the Maoists. Despite all these difficulties, CFUGs continued to carry out community forest governance and forest management activities more or less as usual. CFUGs in all three case studies managed to convene the meetings of GA and EC by negotiating with government security forces as well as with the Maoists. These data suggest that community-based resource governing institutions had become resilient and were able to cope and adapt during the time of external shocks, in this case the armed insurgency.

8.3.3. Equity, Access and Benefit Sharing Mechanisms

The issues of equity, access to community forest resources and benefit sharing mechanisms are comprehensively addressed in the CFUGs' Operational Plans (OP). CFUGs formulated various policies addressing access, equity, governance and benefit sharing mechanisms based on local circumstances and condition of the community forest. All three CFUGs formulated detailed rules of governance, enforcement, and distributional rules as well as plans and programs for forest management and community development activities. All CFUGs in the case study sites have adopted a policy of positive discrimination toward disadvantaged groups in distributing forest products. Households that belong to lower socio-economic strata, especially the poor, landless, and the blacksmith groups, receive a certain amount of timber and fuel wood free of cost. Besides that, households received free timber for the construction of houses damaged by natural disasters like earthquakes, fire and other calamities. The Hile Jaljale (Ka) CFUG also adopted a policy to assign subsidized rates for selling forest products to those households that belong to disadvantaged groups. Similarly, the Sharada Devi CFUG has a policy that those households that belong to lower economic strata do not have to pay annual membership fees. The Lakuri Rukh CFUG has a policy to provide 100 cubic feet of timber free of cost for community development works and wood required for making agricultural implements. The Hile Jalajle (Ka) CFUG has come up with some interesting programs to increase the status and income of women and lower castes by providing raw material (fuel-wood) and training to prepare briquettes. Many women are now involved in briquette making and earning an income through the sale of briquettes. With the assistance of a Micro Enterprise Development Programme (MEDEP) funded by UNDP, the Hile Jaljale (Ka) CFUG has helped to establish an improved furnace to manufacture agricultural tools. Blacksmiths are now benefiting from running this business. The Lakuri Rukh and Hile Jaljale (Ka) CFUGs have adopted a positive discrimination policy and assigned certain areas of community forest land to cultivate income generating cash crops such as cardamom, broom grass, bamboo and other medicinal plants in order to increase the income status of CFUG members. These policies have been aimed especially

at marginalized groups from lower socio-economic strata. Distribution of forest products is found to be equitable regardless of class, caste and gender. Those CFUGs which have larger land holdings are benefitting greatly from the environmental services received from community forestry, mainly in supporting farming and animal husbandry; however, beside direct access to forest products and a small amount of income from NTFPs, households from lower socio-economic strata arguably did not share all the flow-on benefits to the same extent..

All the CFUGs in the case study sites have developed a set of comprehensive rules and procedures outlining when and how to access the forest and procedures for forest products distribution among members. CFUGs have prepared a timetable for forest management activities, and notify its members in advance. In order to control illegal activities like burning, hunting, and illegal cutting of trees during thinning operations, such operations are supervised by the CFUG committee members. All CFUGs in the three case study sites have been regularly carrying out thinning operations annually with the aim of maintaining a healthy stand and promoting regeneration of desired broad leaf species. During thinning operations, CFUG members are hired on a paid basis that provides supplementary employment opportunities for them. When the thinning operation is completed, the forest products generated from thinning are distributed equally among all CFUG members.

Of the three case studies, Lakuri Rukh and Hile Jaljale (Ka) have good forests and the supply of forest products exceeds local demand. CFUG members do not have to pay a fee for accessing forest products, except for timber. CFUG members are allowed to collect dry wood, fodder, grass and leaf-litter throughout the year. However, Sharada Devi forest is still young and the stock of forest is also lower as compared to the other cases. Per capita forest area is also lower in Sharada Devi, thus the forest product demands of its members are not fully met by the CF. Access to the forest is more regulated in the Sharada Devi CFUG as compared to the other two cases, mainly due to lower supply than demand. CFUG members in Sharada Devi have to pay fees for the firewood they take; however, grass and leaf-litter can be collected free of cost. This differential

capacity to provide forest benefits from CF is directly related to the status of the resource base and income of the CFUG. It was found predictably that people from low-income groups are more dependent on community forest than those from higher socio-economic strata. The high-income households fulfil their demands for forest products from their private forests as well as from alternative power sources, as they have enough income to afford other options such as LPG gas, electricity and solar. Lower-income households are unable to substitute with alternative energy sources. This reality suggests that although the distribution of forest products is strictly equal, this may not be sufficient to satisfy the needs for forest products of those who are totally dependent on community forest and have no other alternative. This reality suggests that in the long run, the success of the community forestry programme depends heavily upon whether the livelihood needs, opportunities and demands of the people from lower socio-economic strata and disadvantaged groups have been addressed. In order to avoid conflict and non-cooperation among CFUG members it is advisable that CFUGs should devise a mechanism through which the issues of good governance in CF and livelihoods security of people dependent on community forest resources can be addressed.

8.3.4. Access to and Distribution of Forest Products during the Late Conflict Periods

Neither of the contending parties restricted CFUG members' access to the forest, however, data show that there was a decline in the amount of forest products collected during the period of conflict, especially in the more remote Hile Jaljale (Ka) and Lakuri Rukh CFUGs. Lakuri Rukh and Hile Jaljale (Ka) CFUG members said that the decline in forest products collection did not have a significant impact on their livelihoods. CFUG members said that they adopted a practical strategy of "wise and minimum use". Besides that, middle and upper socio-economic groups also used forest products from their *kharbari* (private land assigned for growing tree and grass), when it was risky entering to the forest (see Table 8.5). Increased forest management and community development expenditure in the late conflict period by CFUGs seems to have compensated for some of the economic impacts of reduced forest product

collection for lower socio-economic groups. It seems that governance mechanisms and overall forest management activities did not experience significant set backs during the intense period of conflict. The main enabling factors for increased forest management in the case study CFUGs, even in the conflict period, can be attributed to the community driven approach, local control over governance regimes, sense of ownership and benefit sharing mechanisms adopted by these CFUGs through the community forestry programme.

8.3.5. Status of CFUGs Income and Expenditure during Pre/Early and Late Conflict Periods

CFUG records of income and expenditure were examined to assess the functioning of CFUGs during pre/early and late conflict periods. Data show that during pre/early conflict periods, income of CFUGs declined by 5% to 32%; however, expenditure on community development activities increased by 5% to 40% (see Table 8.8). Faced with a dual tax burden during the late conflict period, there was a decline in income. Nonetheless, CFUGs increased community development activities during the late conflict period from their savings. As community development activities increased employment opportunities, CFUGs in all three case study villages were actively implementing various programmes from their savings.

Although the external environment was not favourable for CFUGs for activities like harvesting and selling timber, CFUGs did not have to face resistance from either of the contending parties to carry out their planned activities from CFUGs funds within the villages. This clearly indicates that CFUGs governance was intact and functioning effectively during the late conflict period despite uncertainties and difficulties created by armed conflict.

Table 8.8: CFUG Income and Expenditure during Pre/early and Late Conflict Periods (% of total)

Name of CFUG	Income (% of total)		Expenditure (% of total)	
	Pre/early conflict	Late Conflict	Pre/early conflict	Late conflict
Sharada Devi	52.8	47.2	47.6	52.4
Hile Jaljale (Ka)	57	43	30	70
Lakuri Rukh	66	34	47	53

Source: Compiled from Sharada Devi, Hile Jaljale (ka) and Lakuri Rukh CFUG records

8.3.5.1. Community Development and Forest Management Activities by CFUGs

Beyond supply of forest products and NTFPs, the community forestry program has been able to become a vehicle for community development and conservation, delivering employment, land improvement, small forest-based business opportunities, skill development training and improvements in the local environment (Mcdermott and Schreckenberg 2009b, 166). A substantial amount of the income of the CFUGs in case study villages has been directed to key infrastructure development in the communities, such as the construction of school buildings, public toilets, community buildings, rural roads, repair of rural bridges, maintenance work at the local school and monastery, drinking water facilities, and the development of forest-based enterprises such as community sawmills. CFUGs have made investments in human capital through women's literacy classes, salaries for school teachers, local health facilities, and subsidized loans to carry out income generating activities for the marginalized sections of the community. However, due to insufficient funds, CFUGs have been unable to implement community infrastructure activities to the extent required by these communities.

According to the 1993 Forest Act (amended in 1999), CFUGs are mandated to invest at least 25% of CF income in forest management activities, and the remaining amount can be invested in other community development activities. Data show that the CFUGs in all three case study sites have invested more than 46% of their income in various forest management activities like, tree plantation, plantation of cash crops, forest thinning and pruning for better regeneration,

forest inventory preparation, establishment of research plots, and the organization of training sessions and study tours. The Sharada Devi, Hile Jaljale (Ka), and Lakuri Rukh CFUGs have invested 76%, 47%, and 55% of total CFUG income on forest management activities and 11%, 45% and 41% on community development activities respectively.

Table 8.9: Proportion of CFUGs Expenditure on Forest Management and Community Development Activities (%)

Activities	Sharada Devi (1995-2007)	Hile Jaljale (Ka) (1998-2007)	Lakuri Rukh (1997- 2007)
Forest management	76	47	55
Community development	11	45	41
Administration	13	8	4
Total	100	100	100

Source: Fieldwork by author, 2008

The Hile Jaljale (Ka) and Lakuri Rukh CFUGs have made substantial contributions to local schools, which significantly improved children's access to education. Out of total expenditure on community development activities, Lakuri Rukh CFUG invested 40% alone in upgrading the capacity of Seti Devi Lower Secondary School to a full secondary school. Similarly 28% of the total income of the Hile Jaljale (Ka) CFUG was invested in Shree Swet Baraha Lower Secondary School.

It is apparent that the major activities carried out by CFUGs were not significantly affected by the conflict, but actually increased, substantially in many cases (see Table 8.10). It can be concluded that despite the worsening law and order situation and difficulties created by conflict, community forestry activities was maintained in all three case studies sites, and there was little negative impact on forest management and community development activities.

Table 8.10: Proportion of CFUG Expenditure in Forest Management and Community Development Activities during Pre/Early and Late Conflict Periods (%)

Activities	Sharada Devi		Hile Jaljale (Ka)		Lakuri Rukh	
	Pre/early conflict	Late conflict	Pre/early conflict	Late conflict	Pre/early conflict	Late conflict
Forest management	31	44	3	36	30	25
Community development	9	2	2	49	11	30
Administrative	7	6	2	7	1	2
Total	48	52	7	93	42	58

Source: Field data collected by the author, 2008

Expenditure at the three sites shows that community development activities have not received the highest priority, especially in the early conflict period. As the CFUG leadership is dominated by the local elites and people from higher socio-economic strata, pro-poor programs have not received as much attention as may be required. An increased focus on income-generation may remedy this situation in the future.

8.4. Livelihood Outcomes

Wild resources from the forests are vital for rural people's livelihoods (Shackleton et al. 2007, 573; Jodha 1986, 1169; Sunderlin et al. 2005, 1391). Villagers in the study sites derived part or most of their livelihood needs from local forests. Although the %age of household income derived from the forest is declining as the rural economy of Nepal is transformed, smallholders still rely on the forest for their livelihood security and for a diverse range of inputs. As forests directly support agriculture and animal husbandry, estimating the value of the forest for household income is important in understanding the role that forestry plays in supporting rural livelihoods (Campbell and Luckert 2002, 3).

Natural resource management policies often failed to consider the full economic services and benefits of the forest to the farming system and rural livelihoods. These remained hidden, mainly due to the lack of proper methodologies for economic assessment (IIED, 1997: 5). The following section examines the overall household income during pre/early and late conflict periods and also the contribution of community forest on household income and livelihoods.

8.4.1 Status of Household Income in the Three Case Studies CFUGs during Pre/Early and Late Conflict Periods

Community Forests (CF) in all three villages make a crucial contribution to household income, livelihood security and conservation of the local environment. Agriculture and animal husbandry receive various inputs from the community forest, although it is not easy to estimate the flow of services from community forest to the farming system and calculate direct benefits in simple monetary terms (Babulo et al. 2009, 109). Household surveys show that the three major sources of household income in Sharada Devi and Hile Jaljale (Ka) are dairying, cereal crops and vegetable farming. In Lakuri Rukh, overseas employment, cereal crops and forest products seem to be the three major source of household income.

The contribution of forest products to household income in Sharada Devi, Hile Jaljale (Ka) and Lakuri Rukh is 5%, 9% and 11% respectively. These data clearly indicates that those CFUGs which have relatively good access to markets earn more through off-season vegetable farming and dairying , while those away from market (like Lakuri Rukh) mostly rely on off-farm activities, overseas and service employment, and their dependence on community forest is also more than others (see table 8.11).

Table 8.11: Mean Annual Household Income in Lakuri Rukh CFUG (all income categories combined)

Income source	Mean annual income (NRs)					
	Sharada Devi		Hile Jaljale (Ka)		Lakuri Rukh	
	Income	% of total income	Income	% of total income	Income	% of total income
Cereal crops	17,226	18	19,089	17	16,125	20
Vegetable farming	16,251	17	23,133	21	-	-
Fruit	-	-	-	-	-	-
Dairying	27,122	28	18,578	17	2,044	3
Small animals (goat/sheep)	4,911	5	6,393	6	4,978	6
Pig/swine	-	-	422	0	2,143	1
Poultry	2,756	3	78	0	2,143	3
Salaries/waged work (permanent)	11,000	11	12,444	11	9,314	12
Overseas employment	-	-	6,444	6	22,048	27
Self employment	7,200	7	5,800	5	7,897	10
Pension	667	1	-	-	-	-
On-farm wages (casual	4,078	4	2,949	3	1,400	2
Off-farm wages (casual)	2,144	2	6,056	5	5,260	7
Forest products	4,938	5	9,695	9	8,833	11
Total	98,293	100	111,081	100	82,185	100

Source: Field survey by author, 2008

From the analysis of household income data the following evidence has emerged. First, access to markets has a crucial role in contributing to household income irrespective of income category. Better access to the markets opened avenues for off-season vegetable farming and dairying (as in Sharada Devi and Hile Jalajle) that helped to boost income according to a household's capacity for capital investment. Second, the direct consumptive value of forest products for

lower-income households is greater than for other income groups, however, middle- and upper-income households are disproportionately able to harness community forest benefits because of their greater land holdings and larger number of dairy cattle (see Table 8.11). When data are further segregated among different income categories they show that the contribution of different sources on household income varies within income categories and also across geographical locations. The three major source of household income for low income households in Sharada Devi are dairying, salaries/waged work, and vegetable farming, while for middle-income and upper-income households they are salaries/waged work, dairying and self-employment. In Hile Jalajle (Ka) CFUG, low-income households' three major income sources are off-farm wages, forest products and vegetable farming, while for middle-income households these are dairying, forest products and cereal crops, and for upper-income householders they are vegetable farming, cereal crops and salaries/waged employment. In Lakuri Rukh, low-income households' major income is through forest products, cereal crops and off-farm employment, while for middle-income earners it is overseas employment, cereal crops and forest products. Upper-income households in Lakuri Rukh depend on overseas employment, cereal crops and salaries/waged work.

Table 8.12: Proportion of Household Income (%) in Three Case Studies by Income Sources and Categories

Income source	Sharada Devi			Hije Jaljale (ka)			Lakuri Rukh		
	Low-income	Middle-income	Upper-income	Low-income	Middle-income	Upper-income	Low-income	Middle-income	Upper-income
Cereal crops	14	14	9	8	20	19	22	20	19
Vegetable farming	16	10	10	12	23	23	0	0	0
Fruit	1	0	0	0	0	0	0	0	0
Dairying	17	27	14	7	23	17	2	1	3
Small animals (goat/sheep)	4	4	2	6	5	6	14	5	5
Pig/swine	-	-	-	2	0	0	2	2	0
Poultry	0	-	3	0	0	0	4	3	2
Salaries/waged work (permanent)	17	20	36	8	0	18	3	9	16
Overseas employment	-	5	7	0	10	5	0	31	33
Self employment	11	10	14	8	0	7	2	10	12
Pension	-	2	-	0	0	0	0	0	0
On-farm wages (casual	3	5	1	8	3	0	8	1	0
Off-farm wages (casual)	9	0	0	22	5	0	15	6	4
Forest products	7	4	2	18	11	5	28	12	6
Total	100	100	100	100	100	100	100	100	100

Source: Field survey by author, 2008

The above statistics clearly show that lower-income households are more dependent on community forest for their household income, irrespective of the access to market and remoteness, however, the proportion of contribution of CF on household income increases with the increasing distance from the market and increasing degree of remoteness.

CFUG members in the three case study sites have diversified their household strategies to secure income by capturing the opportunities created by conflict. Data show that household income in Sharada Devi, Hile Jaljale (Ka), and Lakuri Rukh CFUGs during the late conflict periods increased by 2%, 23% and 44%, respectively (see Table 8.12).

Table 8.13: Mean Household Income (NRs), all categories (for all sample households)

CFUGs	Mean annual household income (NRs), all income categories combined		
	Pre/early conflict	Late conflict	Change (%)
Sharada Devi	103,135	148,154	+44
Hile Jaljale (Ka)	108,989	111,081	+2
Lakuri Rukh	58,934	72,242	+23

Source: Field survey by author, 2008

Specifically in Sharada Devi CFUG, household income among high, middle and low-income households was increased by 56%, 28% and 30% respectively. Among three case studies, the increase of household income in Sharada Devi CFUG during the late conflict period was remarkable. Households during this period were able to augment their income through various means like vegetable farming, dairying, small animals, service employment, self employment and overseas employment. Households in Shrarada Devi were in a more advantageous position than other CFUGs in terms of their easy access to market and better communication facilities. Because of easy access to market they were able to sell their products for better prices, as there was less competition due to road blockades induced by the Maoists.

Table 8.14: Mean Household income (NRs) during Pre/early and late Conflict Periods by Income Category (for all sample households)

Income group	Community Forest User Groups		
	Sharada Devi	Hile Jaljale (Ka)	Lakuri Rukh
Low-income			
Before conflict	49,322	60,271	34,983
Late conflict	63,897	59,592	35,477
Change (%)	+30	-1	+1
Middle-income			
Before conflict	102,974	91,938	52,360
Late conflict	131,516	90,692	77,734
Change (%)	+28	-1	+49
High-income			
Before conflict	167,525	174,758	89,459
Late conflict	260,332	182,960	128,849
Change (%)	+56	+5	+44

Source: Field work by author, 2008

High-income households in Hile Jaljale (Ka) CFUG increased their incomes by 5%, while there was a minor reduction in household income (1%), among low and middle income households. During the period of insurgency, low-income households in Hile Jaljale (Ka) augmented their income through piggeries, dairying and wage labour. This study indicates that the conflict did not have a significant negative impact on household income in any of the three CFUGs. The study shows that Nepal accomplished remarkable overall economic and human development between 1995/96 and 2003/04, a period of political instability and armed insurgency. Interestingly, during this period the incidence of poverty fell from 42 to 31 %[142].

[142] The World Bank study (2006) shows that the main reason for improvement in overall economic and human development during the period of insurgency is due to the improved connectivity, better penetration of communication facilities (telephone, radio, electricity), improvement in education, primary health care, rural road networks,and social mobilization, and especially thanks to the development of community forest user groups. There was sharp rise in remittances from migrant workers to $794 million in 2003/04 up from $203 million in 1995/96.

8.4.2. Contribution of Community Forests (CF) to Household Income

The livelihoods of rural households in most developing countries are directly or indirectly dependent on surrounding natural resources, and among these forests play a crucial role (Babulo et al. 2009, 110). For these communities in Nepal, the most important direct economic benefits received from the forest are fuel-wood for cooking and heating, timber for the construction of houses, and fodder and leaf litter for livestock rearing. As community forests directly support livelihoods of rural communities, estimating the value of forests for household income is important in understanding the role that forest plays in supporting rural livelihoods (Campbell and Luckert 2002, 3). Equally important is to understand who depends most on forest resources and how forest resources used affect other socio-political and economic dimensions of forest users' welfare (Cavendish 2002, 17). Table 8.15 presents the share of consumptive value of community forest to overall household income in all three case study sites. This is calculated in terms of consumptive use-value[143] of forest products and NTFPs. Survey data indicate that the contribution of community forest to household income in Sharada Devi, Hile Jaljale (Ka) and Lakuri Rukh CFUGs was 3%, 9% and 11% respectively.

Table 8.15: Consumptive Value of Forest Products and NTFPs for Household Income, all categories

Name of CFUG	Annual household income (NRs) from CF	Share of CF contribution to total household income (%)
Sharada Devi	4,938	3
Hile Jaljale (Ka)	9,695	9
Lakuri Rukh	8,833	11

Source: Field survey by author, 2008

The analysis again indicates that the share of community forest in household income is directly related to the degree of remoteness and access to markets. Lakuri Rukh which is located farthest from the district centre and market, relied

[143] The consumptive value of community forest resources have been calculated in economic terms based on the quantity of forest products used by each household annually from CF and the local market value of such products. Where consumptive value of forest products in each CFUG was calculated based on per unit current local price of the particular forest products multiplied by the amount of forests products used by the households based on the work of (Gregersen et al. 1995; Murthy et al. 2005, 1577)

more on community forest followed by Hile Jaljale (ka) (relatively less remote and at a moderate distance from the market) and Sharada Devi (least remote and closest to market).

When data are disaggregated across income categories, they give a striking picture. Table 8.15 shows that the share of forest products and NTFPs in the total income of low-income households surveyed in Sharada Devi is 6.67%, in Hile Jaljale (Ka) it is 14.39% and in Lakuri Rukh is 27.57% (more than twice that of middle income and nearly 5 times that of high income households in this most remote CFUG). This indicates that CF plays a significant role in household income and livelihood support for low-income households as compared to middle and higher-income households. However, this does include the in-kind value of indirect benefits such as inputs to agriculture activities.

Table 8.16: Share of Forest Products on Household Income (consumptive value) by Income categories (%)*

CFUGs	Annual income (NRs)	Average Share of CF contribution to household income (%) **
Sharada Devi		
Low-income	4,264	7
Middle-income	5,336	4
High-income	5,215	2
Hile Jaljale (Ka)		
Low-income	10,998	14
Middle-income	9,492	10
High-income	8,594	5
Lakuri Rukh		
Low-income	9,783	28
Middle-income	9,308	12
High-income	7,408	6

Source: Field survey by author, 2008 **the calculation was based on the consumptive value of forest products and NTFPs in each CFUG among three income categories.

8.4.3. Employment Opportunities Created by Community Forest

Community-based forest governance can open up new livelihood opportunities for local households. But a clear policy focus on benefit distribution as mediated by the local CFUGs is crucial (Thoms 2008, 1461) to achieve this end. The CFUGs are able to expand access to employment opportunities for rural poor, especially during the annual thinning operation, which employs a large number of people. In addition, local people are employed as *ban heralu* (forest watchman), nursery foremen and in forest-based enterprises like furniture works and the community saw mill. Among the three case study sites, households from Lakuri Rukh CFUG had the opportunity to work in the Chaubas-Bhumlu Community Sawmill which was being operated through the collaboration of four CFUGs. During the sawmill operation hundreds of local people were employed in sawmill related works, which positively affected the economic status of local people. Out of the total 92.17 million Nepali rupees earned by the saw mill between the period 1996/97 and 2004/05, about 1.84 million Nepali rupees were spent on hiring wage laborers, creating about 28,000 man days of employment (for details refer to case study Chapter 7 on Lakuri Rukh). Beside that, each CFUG in Chaubas has employed local people in thinning operations, which also created employment.

Table 8.17: Employment Opportunities Generated by Three Case Study CFUGs (person-days)

Activities	Sharada Devi (1995 -2007)	Hile Jaljale (Ka) (1998-2007)	Lakuri Rukh (1997 - 2007)
Forest management	6,456	12,868	7,538
Community development	193	2,844	2,920
Total	6,648	15,712	10,458

Source: Calculated from CFUGs record by author, 2008

Table 8.17 shows that Sharada Devi, Hile Jaljalke (Ka), and Lakuri Rukh CFUGs, generated 6,648, 15,712, and 10,458 person-days of employment respectively for the local community. Every year, CFUGs implement a forest management as well as community development activities in the village, thus, CFUG members have an opportunity to work as paid laborers. During the course

of interviews and daily interactions with CFUG members, it was found that the opportunities for employment created by community forests have contributed significantly to livelihood improvement. For example in Lakuri Rukh, CFUG members were able to convert thatched rooves into corrugated tin rooves through the money earned by working in the community sawmill and forest management activities launched by the CFUG. The overall employment created by the CFUG in the Sharada Devi and Hile Jaljale (Ka) CFUGs increased during the late conflict periods, as opposed to the reduction in the Lakuri Rukh CFUG, mainly attributed to the closure of the community sawmill. However, beside the reduction in forest management activities, the Sharada Devi CFUG continued its support of community development activities and there was no impact on these activities during the late conflict period.

Table 8.18: Proportion of Total Employment Created by CF during Pre/Early and Late Conflict Periods (%)

Activities	Sharada Devi		Hile Jaljale (Ka)		Lakuri Rukh	
	Pre/early conflict	Late conflict	Pre/early Conflict	Late conflict	Pre/early conflict	Late conflict
Forest management	48	49	16	66	51	21
Community development	2	1	2	16	14	14
Total	49	51	19	81	65	35

Source: Calculated by author based on CFUG records, 2008

It can be concluded that community forestry institutions have created a number of seasonal employment opportunities for their members. Given the nature of the work, which is mostly casual wage labor, people from lower-socio-economic strata are the ones who are most likely to benefit, as people from higher socio-economic strata are involved in permanent salaried/waged employment, business and farming. The CFUGs were capable of maintaining these activities even during the period of armed insurgency.

8. 5. Environmental Outcomes

The environment provides the essential life support systems and basic means of production for human settlements (Freebairn 2009, 13). In recent decades, governments in many countries have reformed their environment policy and devolved power over natural resource management to local people, largely due to resource scarcity and increased community need for environmental services (Korten 1987, 3; Agrawal 2008, 46). Community forests provide an array of environmental services including the conservation of biodiversity, watershed protection (including water quality and quantity), carbon sequestration, and countless other benefits including food, medicine and amenities, which are fundamental to the livelihoods and well-being of forest dependent rural communities in the hills of Nepal.

During the course of the studies, detailed discussions were held with CFUG members to assess the environmental outcomes since the inception of the community forestry program. It is evident from the case studies that the present forest area occupied by the Sharada Devi, Hile Jaljale (Ka) and Lakuri Rukh had been completely degraded and the forest was in no condition to provide forest products and NTFPs, or other environmental services. When the forest governance authority officially came under the control of local community, CFUGs in all three case study sites committed to protect the forest completely for two to three years in order to allow the growth of planted trees and to promote natural regeneration. After the third year of protection, CFUG members were allowed to access the community forest for collecting grass and twigs. As a consequence of protection, the forest regrowth was remarkable and the condition of the community forest had significantly improved. This has provided a wide range of environmental services and benefits to the local communities. Before the establishment of the community forests, people had to walk many hours from their villages in search of firewood, fodder and timber. People also faced difficulties in rearing livestock and farming due to the lack of fodder, grass, compost and water for irrigation as well as for drinking. Since the improvement in forest condition, household demands for forest products have been completely

met from community forest in Hile Jalajle (Ka) and Lakuri Rukh, and partially met in Sharada Devi CFUG.

Table 8.19: Mean Annual Forest Products and NTFPs Collected per Household*

Forest products	Community Forest User Groups (CFUGs)		
	Sharada Devi	Hile Jalkjale (Ka)	Lakuri Rukh
Timber (cu. ft)	-	16	8
Fuel-wood (*bhari*)	17	66	76
Fodder (*bhari*)	9	1	36
Grass (*doko*)	2	29	51
Leaf-litter (*bhari*)	22	85	70
NTFPs (kg)	-	-	3

Source: Fieldwork by author, 2008 * 1 *bhari of* green fuel wood is approximately equivalent to 50 kg; 1 *bhari* of fodder or grass is equivalent to 25 kg; and 1 *doko* of leaf litter is equivalent to 20 kg.

Respondents in all three case study sites reported that after the establishment and conservation of the community forests, there was a significant improvement in local watershed condition. A noticeable environmental outcome achieved by the Sharada Devi and Hile Jalajle (Ka) CFUGs is the significant increase in off-season vegetable farming, mainly because of the increase in water supply coming from the forest watershed. Another environmental outcome according to the people interviewed in both Sharada Devi and Hile Jalajle (Ka) is the improvement in the drinking water quality and supply for the local community, because of the increased water volume from the forested watershed. Due to the improvement in water yield from the forest watershed, many additional drinking water facilities have been installed in the community. Moreover, as reported by people in all three cases, the incidence of mudflow, erosion, landslide, flood hazard and downstream siltation has greatly reduced. Nonetheless, during the initial stage of the CF, mainly in the Hile Jaljale (Ka) and Lakuri Rukh CFUGs, communities experienced dryness and reduction in water source, believed to be mainly due to the initial plantation of pine species. However, in the later years of the CF establishment, when the forest became mature and the regeneration of understorey and broadleaf species was good, the quantity of water coming out of the forest watershed has increased.

8.5.1. Condition of Wildlife

People in all three CFUGs reported a marked increase in the number of wildlife species present in the forest. Before the initiation of the CF, the forests were completely degraded; and there were reportedly only a few wildlife species present, mainly rabbit, jackal, and a few bird species. After decades of conservation through the community forest program, many species of wildlife have migrated into the forest and their populations have increased significantly, due to the improvement in habitat. In interviews, people in all three CFUGs told us that they have frequently encountered wild mammals and birds in the community forests. CFUG members are facing some problems as a consequence, including damage to crops from deer, wild boar and birds, and in a few instances, local people were injured and killed by tigers and leopards. Table 8.19 shows the list of wild mammals and birds encountered by CFUG members while in their community forests. It is reported from CFUG members that during the late periods of armed insurgency, there was no marked negative impact on wildlife. As the frequency of visits to the forest decreased during the late conflict period, there are likely to have been some positive effects for wildlife and their movements and population levels. In Hile Jalajle (Ka), it could be surmised that there may have been some localized declines due to the regular firing exercises conducted by the Nepalese army inside the community forest area, which may have caused temporary migration to other areas.

Table 8.20: List of Wild Life Sighted by Informants in the Three Case Study Sites

Vernacular name	English name	Scientific name	Sharada Devi	Hile Jaljale (Ka)	Lakuri Rukh
Wild animals					
Bandel	Wild boar	*Sus scrofa*	×	×	×
Pate Bagh	Tiger	*Panthera tigris tigris*	×	-	×
Chituwa	Leopard	*Panthera pardus*	×	×	×
Dumsi	Porcupine	*Hystrix indica*	×	×	-
Salak	Chinese pangolin	*Manis pantadactyla*	×	×	-
Kharayo	Hispid hare	*Caprolagus hispidus*	×	×	-
Shyal	Jackal	*Canis aurevs*	×	×	×
Ban Biralo	Wild cat	*Telis chans*	×	-	-
Chittal	Spotted dear	*Axix axis*	×	-	-
Ratuwa mirga	Barking deer	*Muntiacus muntaijak*	×	×	×
Lokharke	squirrels	*Funambulus spp.*	×		
Malsapro	Yellow-throated Marten	*Mortes flarigula*	-	×	-
Banmuso	-	-	-	×	-
Sun Gohoro	Golden Monitor Lizard	*Varanus favescens*	-	×	-
Sarpa	Snake	-	-	×	-
Birds					
kalij	kalij pheasant	*L. l. leucomelanos*	×	×	×
Battai	Quail	*Coturnix coturnix*	×	-	-
Titra	Hill-partridge	*Arborophila torqueola*	×	×	-
Fiste	-	-	×	-	-
Lampuchree	Yellow billed Blue Magpie	*Urocissa flavirostris*	×	×	×
Dhukur	Oriental Turtle Dove	*Streptoplia orentalis*	×	×	×
Jureli	Red vented bubbul	Pycnonotus jocosus	-	×	×
Suga	Red Breasted Parakeet	Psittacula alexandri	-	×	-
Dhobichara	-	-	-	×	-
Chyakhura	Chukur Patridge	Alectoris graeca	-	×	-
Baj	Falcon	Falcon peregrinus	-	×	-
Baudai chari	-	-	-	×	-
Gauthali	House Swift	*Apus affinis*	-	×	-
Kalchaude	-	-	-	×	-
Malichara	-	-	-	×	-

Source: Information compiled by author during fieldwork based on interview with informants and CFUG operational Plans, 2008

8.5.2. Status of Forest Stocks and Regeneration of the Three Case Studies CFUGs

In Sharada Devi, regeneration of broadleaf species inside the community forest is promising. There is a complete transformation of the landscape. Once a denuded hill, the area has now been converted to a green and healthy forest. The Hile Jaljale (Ka) and Lakuri Rukh CFUGs have adopted a policy to develop a healthy forest[144] by removing overstocked stands and promoting the growth of broadleaf species through gradual thinning of pine species. As the number of plants per hectare is too high, every year communities undertake thinning operations. The author made a number of visits to the community forest during the fieldwork and found that the forests in all three sites are in very good condition.

Table 8.21: Status of Regeneration of Broad-leaf Tree Species in Three CFUGs

CFUGs	Saplings (no. of trees /ha)	Pole size tree (no. of trees /ha)
Sharada Devi	17,375	5,417
Hile Jaljale (Ka)	17,148	11,805
Lakuri Rukh	3,275	219

Source: Compiled from Sharada Devi, Hile Jaljale (Ka) and Lakuri Rukh CFUG Operational Plans

[144] A healthy forest refers to the improvement in both ecological and social aspects. Ecologically, a healthy forest maintains its unique species and processes, while maintaining its basic structure, composition and function. In social terms, healthy forests have the ability to accommodate current and future needs of people for aesthetic values, products and services.

Besides natural regeneration, the growth of mature forest stock is also promising. Forest inventories prepared by the CFUGs with the technical help of forestry technicians shows that the annual increment of forest stock in Sharada Devi, Hile Jaljale (Ka) and Lakuri Rukh is 2,806, 233, and 439 cubic feet respectively.

Table 8.22: Status of Forest Tree Stock in Three Case Studies CFUGs

CFUGs	No. of trees/ha (10-30 cm diameter)	No. of trees per ha (> 30 cm diameter)	Total trees/ha	Annual increment (cubic feet)
Sharada Devi	1,028	17	1,055	2,806
Hile Jaljale (ka)	495	71	566	233
Lakuri Rukh	441	217	658	439

Source: Compiled from CFUGs record

Medicinal plants derived from the forest play a critical role in the livelihood security of the rural poor. Due to a lack of modern medicine and health facilities in the rural areas, medicinal plants are frequently used by people for the treatment of various ailments. In Lakuri Rukh CFUG, households collect medicinal plants from the community forest and sell these for extra income, while in other CFUGs; medicinal plants are used solely for household needs. Because rural people's access to health facilities is poor in the mountains and hills of Nepal, community forests provide important medicinal products to local people to deal with sickness. The community forest also serves as a site for spiritual needs, as well as a recreational place. The Hile Jaljale (Ka), Sharada Devi and Lakuri Rukh CFUGs have prepared a policy to develop their community forest areas as tourist destinations. As these CFUGs are situated at the peak of the mountains, after a few hours of trekking, tourists can see panoramic landscapes. These places are also ideal camping site for tourists. Community forest user groups have planned to develop this area as ecotourism destinations from which CFUGs can earn income, and the money generated from such activities can also be used for conservation of community forest and various other community development activities.

On the whole, it was found that after the establishment of the community forests, there was a marked improvement in wildlife numbers, forest stock, and

watershed condition. People in all the case studies sites agreed that they have experienced a diverse range of direct benefits and indirect environmental services from the community forests. There was no marked negative impact from the insurgency on environmental aspects of the CF.

8. 6. Conclusions

In this chapter, three major outcomes associated with the community forestry program were assessed, in the spheres of governance, livelihood and environmental outcomes, and a comparative analysis was undertaken to understand the impact of armed conflict (i.e. pre/early and during the late periods of armed insurgency) at these three sites. A number of lessons could be drawn from the research.

The case studies' findings show that the community forestry program has empowered local communities, providing access to and substantial control over forest resources, and has also embraced certain principles of equity in benefit sharing. In this regard, community-based forest management represents a paradigm shift in forest management. It opened an avenue for recognition of local people's rights over forest resources. Beside the positive aspects of community-based forest management, some deficiencies have been observed. Data show that the involvement of women and socio-economically marginalized sections of the community in decision making bodies, especially in higher executive posts such as chairman, secretary, treasurer, is not satisfactory. In many cases, key leadership positions are monopolized by local elites. There is a policy of ascribing CFUG membership to the household head only, which in the majority of cases is a man. Such policies have systematically sidelined women's roles in the business of the CFUG. Since 2000, CFUGs have adopted a policy of allocating a certain percentage of the CFUG executive committee posts to women and people from lower socio-economic strata. This more inclusive policy emerged in response to the Maoist pressure and the recognition of second generation issues in community forestry research. Donor agencies also advocated in favor of this policy shift and revised their program strategies in favor of poor and marginalized segments of society. Since 2000, there has been a rise in the

representation of women and marginalized sections of the community on the community forest executive committee and general assembly meetings. This suggests that the armed conflict has forced government, donor agencies and communities to make some positive changes in the community forestry program, especially to allocate quotas in CFUG executive committee for the previously excluded sections of the community. Finally, CFUG policies and programs are prepared, endorsed and implemented by the CFUG executive committee, in close consultation with CFUG members.

The community management of forest resources through the CFUGs has provided an effective model of resource management that gives tangible benefits to rural people. CFUGs have undertaken various community infrastructure development activities in order to improve basic infrastructure and services for the overall welfare of the community. Although a substantial amount of CFUG income has been invested in forest management and community infrastructure development activities, investment in pro-poor activities is still not adequate. The investment made by CFUGs in education, rural roads, drinking water schemes, and community buildings has certainly helped communities as a whole. However, it was also apparent that the investment of CFUG funds in infrastructure development activities tends to benefit the upper-income groups disproportionately because of their structural advantages. Only 3% of total expenditure had been invested in pro-poor programs (Kanel 2004, 11). For instance, investments have been made to improve school facilities through CF initiatives. But this sort of investment benefitted mostly richer households, as poor people could not afford to take the same advantage of educational opportunities (Timsina 2003; Dev et al. 2003, 72) since the children of lower-income groups are engaged in income earning or domestic activities to assist their parents. Lakuri Rukh CFUG made investments to increase access to drinking water. However, there were complaints from lower caste people that the water tap was only constructed in the vicinity of the higher caste and influential households, and that the poorest were not able to use the drinking water facility. In summary, this study provides compelling evidence that improvement in physical capital alone at the community level is not enough to improve the living conditions of the rural poor. This has to be integrated with wider community

development programs that facilitate the socio-economic advancement of disadvantaged people.

The community forest in Nepal renders essential inputs to the farming system and is well integrated into the farming system (Dev and Adhikari, 2007: 148). These studies show that community forests directly supported the farming system, which helped to improve household incomes and the livelihoods of forest dependent local communities. The CFUGs in these case studies sites have experienced a number of positive outcomes following the initiation of the CF programme. There was a significant increase in the supply of forest products and other environmental benefits. Due to enhanced watershed protection, the most noticeable outcomes were improved irrigation and drinking water facilities, which enabled an expansion of off-season vegetable farming and dairying. Out of the total household income in the three communities, 71%, 61% and 33% comes from the combined agriculture and livestock sector in Sharada Devi, Hile Jaljale (Ka) and Lakuri Rukh CFUGs respectively (see Table 8.11), which is largely supported by community forests. The resources from community forests form an extremely important input to community livelihoods. Ccommunity forests provided timber for construction, fuel-wood for household energy, fodder, grass and leaf-litter to livestock and compost for agriculture.

In recent years the natural regeneration of community forest has been very promising, and greenery and forest stands have significantly improved. There has been a marked increase in the quantity and quality of water in streams and rivers due to the improvement in forest watershed. The problems of erosion, sedimentation and landslides have now significantly decreased. Many species of wildlife have reportedly migrated into these regenerating forests, and villagers claim that their numbers have increased enormously after the community forest intervention. This suggests that greater local control over forest can contribute to healthier and ecologically sustainable forest management and use. However, it has to be recognized that community-based forest management in all three CFUGs does not operate unilaterally, as there has been substantial support from outside mainly from the Department of Forest and the Nepal Australia Community Forestry Project.

The governing mechanisms of the state agencies, including the Department of Forest, were dysfunctional and ineffective during the late period of the Maoist insurgency. Many field offices of the District Forest Office (DFO) in Kavrepalanchok district were destroyed, and the outreach activities of the DFO were confined to near the district headquarters. The quality of such activities as were undertaken was greatly compromised, due to the lack of regular monitoring and assessment. Moreover, forestry staff of the Range Posts were evacuated from the field and stationed in the district office due to lack of security. There were restrictions from the district administration office on mass meetings, and restriction from security forces on going to the forest in groups; also there was a tax burden from both the state and the insurgents. Despite all these challenges, the governance structures of the local CFUGs were stable and they were able to carry out forest management and governance activities more or less as usual. These institutions were found to be more resilient than other government sponsored and controlled agencies. The Maoist insurgency did not substantively impact upon CFUG governance arrangements in practice, as CFUGs were able to have discussions and develop understanding with the Maoists, and also with government security forces. Whether the CFUG was under the influence of insurgents or security forces, this research did not find much difference in the actual governance arrangements of these community forests.

This study suggests that the new modes of governance of Common Property Resources (CPRs) – especially the evolving practices of nested, community-based forest co-governance – in general helped to accommodate the local interests and needs of communities as well as the conservation policy goals of state and international donor agencies. In addition, these case studies demonstrate that CFUGs were able to overcome external threats and shocks caused by armed conflict. In the Nepalese case, this was possible because the central government devolved power of decision-making, rights and responsibilities over natural resource use and management to local people, within social and environmental parameters established by legislation and supported initially by technical support provided by government and donor agencies. This new approach of decentralized/devolved forest governance

arrangements was found viable and successful in sustaining local ecological conditions as well as enhancing livelihoods of the forest dependent communities. All three case study CFUGs are members of the Federation of Community Forestry Users' Nepal (FECOFUN) network, which has significantly helped to voice their interests and agendas in the national and international arenas. Due to their collective strength and enhanced social capital, the CFUGs had more bargaining power and resilient capacity to deal with and even minimize the effects of the conflict on local people's livelihoods. This study supports the line of argument that the community-based co-management approach can be more adaptive and effective in enhancing the capacity of local resource governing institutions, through the expansion of networks and building spaces of engagement with wider communities and institutions (Tompkins and Adger 2004). Community-based forest co-management, as a flexible and adaptive resource management system, has the capacity to respond, adapt and change according to the situation and context, building social capital through networks across levels and scales (Olsson, Folke, and Berkes 2004, 75).

Chapter 9

Conclusion and Policy Recommendations

This research project examines the impact of the decade-long political conflict (commonly known as the Maoist insurgency) on resource governance, livelihood security, and environmental sustainability in three case study communities in Nepal. More specifically, the case studies are designed to assess the effectiveness and sustainability of the community-based forest co-management initiatives prior to and during the prolonged armed conflict.

The first part of the thesis examines how community forest (CF) policy emerged in response to declining environmental services from Nepal's forests and the political context that gave rise to forest degradation. It provides an overview of the successes and limitations of early experiments with community forestry and the extent to which the changing policy framework and political context contributed to the objectives of the CF program in terms of local participation in governance, improved livelihoods and restoration of the forest ecosystem. The second part of the thesis examines in greater depth the implementation of the program in three communities in the Kavrepalanchok District in the Middle Hills of Nepal. It traces the extent to which the prolonged armed conflict affected access to and sustainable use of community forest resources, and the overall impact of the conflict on community forest governance in the case study sites.

The introductory chapter provides the background and context of the research and identified the research questions, methodology, selection of study sites, and sampling techniques. The second chapter dealt with existing literature and theoretical insights on common-pool resource governance, collective action, and decentralized forest governance, specifically examining approaches to resource governance, and focusing on arguments surrounding community-based resource management and co-management approaches. Chapter three examines the political processes and struggle for democracy in Nepal, with a particular focus

on the evolution of the communist movement and emergence of armed conflict in Nepal. This chapter further examines the socio-economic differences among classes, castes, and geographical regions that contributed to the emergence of the armed conflict. Chapter four analyzes forest policy and governance in Nepal, and the impact of policies adopted by different political regimes on local resource governing institutions and the sustainability of the forest commons.

Chapter five, six and seven presents case studies of three different CFUGs. These chapters critically examine the effectiveness of community-based forest co-management initiatives, particularly resource governance outcomes (participation, decision making, benefit sharing), livelihood support and environmental services associated with community forestry programs. They also look at how the prolonged armed conflict affected access to decision making, equity and governance processes, and the adaptation and resilience of CFUGs in addressing the adverse impacts of conflict.

The case studies presented three different geographic and conflict settings. In the first case study, nearest the district capital, there was little direct influence from either of the contending armed parties; the second case study site was under the influence of government security forces; and the last most remote site was under the influence of the Maoists. Chapter eight undertakes a comparative analysis of the three case studies, and this final chapter presents the conclusions and policy recommendations to be drawn from the research, and identifies areas requiring further research.

Before 1957, forests in Nepal were under the control of feudal states. These tended to give permission to exploit forest resources and expand agriculture as a strategy to increase the tax base and strengthen the power of the state. During 104 years of autocratic rule under the Rana regime, the productive forests of the Terai region were heavily exploited. With the advent of democracy, the government nationalized all private forests in 1957, in order to confiscate the huge tracts of forest under the control of powerful families. However, this legislation enforced by the state disrupted the indigenous systems of forest management. To prevent the private forests from being nationalized, people

quickly destroyed the forests on their farms as well as the forest land adjoining their farmland, leading to severe deforestation in the Middle Hills of Nepal. Centralized control of forests was further strengthened by the enactment of the 1961 Forest Act, which conferred absolute authority over forest management and administration on the forest department. Within two decades most of the forests in the Middle Hills of Nepal were degraded; the forests in the Terai region also disappeared, mainly due to the government's resettlement policy and illegal logging. With international attention drawn to the problem of 'Himalayan environmental degradation' and the promotion of participatory forest management policies by the FAO in the late 1970s, financial and technical assistance poured in from donor agencies. These developments encouraged the government of Nepal to initiate various conservation projects, which included reforming forest policy and the introduction of community forestry programs.

Following the enactment of the 1993 Forest Act and the 1995 Forest Regulations, and introduction of community forestry programs in 1978, thousands of Community Forest User Groups were formed at the village level, which created an institutional platform for broader social changes. Community-based forest co-management innovations gave communities the power and authority to control more directly those who had access to forest resources and how they were used. When the community forestry programs first started, a key challenge was building trust between local communities and forestry staff. Through the strong technical and financial support provided by international donors and the commitment of influential and progressive foresters in the Ministry of Forest, forestry extension measures including training, observation tours, meetings, literacy classes and documentary screenings were introduced, which significantly improved the confidence of local people in forest management and narrowed the gap that had previously existed between foresters and the local people.

Over the last several decades, CFUG members have been successful in building the capacity of these institutions. They determine their own priorities, represent their community's interests in wider social and political spheres, enhance technical capabilities in forest management, and implement various community

level development activities. As of July 2009, out of the 3.5 million hectares of potential CF in the country (which is 65% of the total forest area), the government of Nepal has handed over 1,230,000 hectares (35.14%) of state-owned forests to 14,440 CFUGs, involving 1,660,000 households and representing about 35% of Nepal's total population (Kandel, 2010)[145]. The CFUGs are now one of the biggest and most powerful local organizations in the rural areas of Nepal. The present community forestry program in Nepal flourished mainly through the support of the government (which undertook favourable policy reform), technical and financial assistance from international donors agencies (the Nepal Australia Community Forestry Project, in this case), and importantly, the active participation of the local people. The rich experiences of local people in indigenous forest management greatly helped to restore previous forest management practices and led to the incorporation of such experience in the newly enacted forest policies. Communities hired *ban heralu* (forest watchmen) to maintain rotational patrolling of the forests to stop illegal harvesting and encroachment. The salaries of these forest watchmen were paid from grain collected from all forest users. This initiative was supported by the Forest Department and the Nepal-Australia Community Forestry Project. Effective collaboration developed between the Department of Forest and local forest users. CFUGs were provided with extensive powers of rule making and enforcement, most importantly affecting rights over access and use, and responsibilities for management of community forests. At the same time, the CFUGs are required to abide by the agreed principles of community forestry as stipulated in their constitution and operational plan, prepared under the broader national forestry legislation and guidelines.

In my case study district, Kavrepalanchok, out of a total of 39,565 hectares of forest, 19,229.53 hectares have already been handed over to 436 CFUGs; which is 48.6% of the total forest area in the district, involving 37,026 households and benefitting 188,998 people (49% of the total population of the district) (DFO 2007, 12). These newly evolved community-based forest governance initiatives open up opportunities for collaboration between citizens and the government to

[145] Pers. comm. Balaram Kandel, Forest Officer at the Department of Forest, Community Forestry Division, Kathmandu, Nepal, 2/05/2010

further their respective interests in promoting sustainable livelihoods and the protection of environmental services (Brunner and Steelman 2005, 19).

This study shows that the inception of the CF program in the case study sites has largely brought positive contributions in meeting local needs for forest products, as well as improving the livelihoods of people and the local environment. This thesis argues that the devolution of forest governance authority from state agencies to local communities created a distinct space for public participation in the governance of community forests. In accordance with a substantial body of literature on the subject (Ribot 2004; Gauld 2000, 229; The World Bank 2008, 159; Ribot 2002b; Borrini-Feyerabend and Tarnowski 2005, 82; Ribot 2002a, 5; Cox 1998, 2; Mcdermott and Schreckenberg 2009b, 168), these communities were empowered with greater community control over local resources, which had positive outcomes in social and ecological spheres (Charnley and Poe 2007, 325). There were improvements in users' access to decision-making processes, which led to a more equitable distribution of benefits. The status of community forests has also significantly improved since the authority of forest management came under the control of local communities. Despite conflicting interests within the communities, community-based forest co-management has provided a significant space for collective action. Evidence from the field suggests that as the members of the communities involved themselves in the community forestry programs, they began to feel some control over this space, which encouraged them to further engage in local resource management initiatives in a virtuous circle that proved resilient in the face of the decade long political conflict.

Previously, it would have been hard to imagine that local people without direct political ties to power holders would have been in a position to engage in dialogue and negotiate favourable outcomes with state forest agencies and other related organizations. Today, CFUGs are empowered to develop networks and working relationships with other civil society organizations, and to make agreements as quasi-independent, self-governed institutions. They are nested within the government regulatory framework, and influenced by wider international equity and sustainability protocols of donor programs. CFUGs have formed their own federation, which integrates the networks of CFUGs at the

village, district and national levels (Poffenberger 2006, 64; Agrawal and Ostrom 2001, 508). The formation of the Federation of Community Forestry Users' Nepal (FECOFUN) at the centre, representing organizations at the regional, district and local levels, was a significant step in safeguarding CFUG rights and interests. It also maintains communication and counterbalances power relations between the Ministry of Forests and Soil Conservation and CFUGs. The FECOFUN has played an active role in promoting and protecting the rights of community forest users through lobbying, advocacy, capacity building, technical support and networking within as well as outside Nepal. During the period of armed insurgency, FECOFUN played an active role negotiating with the Nepalese security agency to safeguard the rights of forest users. Similarly, as a pioneering village level institution, CFUGs have been innovative in providing assistance in the formation and promotion of other village level institutions and developing working relationships with other community organizations in the villages such as women's groups, youth clubs, saving and credit groups, Village Development Committees and non-governmental organizations (NGOs). A significant achievement of the community-based resource management program is that it has reconfigured relations between the different actors involved in forest management. CFUGs are now regarded by the Forest Department as equal partners in community forest management. Although larger political and economic forces have had significant influence on local forest management initiatives, user groups also have considerable influence on national forest policy formulation through the federation of CFUGs.

Community forest management is a significant improvement on past practice where government forest agencies made decisions about the exploitation of forest resources without consulting local people or allowing their participation. CF institutions at the village level have recognized rights to organize, make decisions over the use and management of the forests, modify rules, exclude non-members and enforce penalties upon those who violate the rules. They have also implemented conflict-resolution mechanisms, which are considered important for the success of common property resource institutions (Ostrom 1990, 90).

The CFUGs have implemented various programs - both technical and socio-economic - such as landslide control, saving and credit schemes, community development activities, social mobilization, micro-enterprise development, and plantation programs in collaboration with different government line agencies and international non-governmental organizations (INGOs). The present study shows that CF programs in study sites have been successful in gaining the collective participation of local people, reversing the trend of forest degradation, improving the status of forests and the supply of forest products and conserving biodiversity, while generating employment, empowering CFUG members and contributing to their socio-economic security. This study also found that after the introduction of the community forestry program, a number of best practices have been introduced which led to positive discrimination in favour of lower socio-economic groups, including a gradual increase in the participation of women and disadvantaged groups in forest resource management and the decision-making process, and a more equitable distribution of community forest benefits. The findings of this study are also supported by other analysts (Acharya 2005; Dangal 2002; Agrawal 2001, 505; Dev et al. 2003; Bhattarai and Khanal 2005, 65; Charnley and Poe 2007, 324; Harrison 2004, 298; Adhikari, Nagata, and Adhikari 2004; Schreckenberg and Luttrell 2009, 207; Acharya 2002, 152; Acharya et al. 2006; Agrawal and Ostrom 2001; Kanel, Poudyal, and Baral 2005; Adhikari, Williams, and Lovett 2007, 477), who have argued for the benefits of decentralized and devolved community forestry programs.

The CFUGs in these case study sites have experienced a number of positive outcomes following the initiation of the CF program. It is evident that significant inputs for primary production are derived from the community forests. Of the total household income in the three communities, 26-60% comes from the combined agriculture and livestock sector in all three sites, which is largely supported by the environmental services provided by community forests. The community forests provide timber for construction, fuel-wood for household energy, fodder, grass and leaf-litter for livestock, and compost for agriculture. Off-season vegetable farming and dairying have become some of the more important sources of cash income for households, especially in CFUGs that are

close to the market. Enhanced watershed protection has also occurred over the period of community forest development.

Moreover, it is apparent that community forestry has provided an effective model of resource management which provides tangible benefits to rural people. It has enhanced local welfare as villagers have invested a significant proportion of their income in various community development activities, such as the construction of schools, rural roads and community halls, paying basic salaries to school teachers, and supporting drinking water schemes. This has not only improved infrastructure in the villages, but equally importantly has created seasonal employment opportunities at the local level. CF has provided employment opportunities during forest thinning operations, small scale furniture enterprises, community sawmill operations and log transportation. The local benefits of the community forestry program in Nepal are also supported by other studies (Adhikari, Williams, and Lovett 2007, 477; Dongol, Hughey, and Bigsby 2002, 77; Acharya 2002, 154). Community-based forest governance (CBFG) has led to enhanced ecological restoration, with dramatic improvements in forest cover and the water regime. Two decades ago, the forests in all three case study villages were badly degraded and people were facing an acute shortage of fire-wood, fodder and timber. Since the introduction of community forestry, natural regeneration has been very promising, and the quality and amount of green cover and forest stands have significantly improved. A substantial increase in the supply of forest products and other environmental benefits was observed. Recent forest inventories in the three case studies showed that the canopy coverage of the forests ranged from 35-60% and the number of trees per ha ranged from 600-1,000, indicating the healthy status of the forests. More specifically, the program has caused improvement in watershed conditions and biodiversity conservation. There was a marked increase in the quantity and quality of water in the streams and springs due to improved forest watershed conditions. The most noticeable outcomes were better drinking water and increased irrigation water, which enabled an expansion of off-season vegetable farming and dairying.

In the recent past, villagers were also facing severe problems of erosion, sedimentation, and landslides during rainy seasons. These problems have now significantly decreased due to community forest conservation efforts. Since the handover of forests to CFUGs, there is evidence that populations of wildlife species have increased. Many species of wildlife (mammals and birds) are reported by local people to have migrated to these regenerating forests, and their numbers have reportedly increased dramatically after the community forest intervention. These findings support the argument that greater local control over forestry can contribute to forest health, which in turn feeds back to improve community livelihoods (Dev et al. 2003, 75-76; Mcdermott and Schreckenberg 2009b, 165). The study confirms that after the handover of state-controlled degraded forest to the local communities, the CFUGs were successful in improving the status of forests from a degraded state to a productive one. At present, communities in all three study CFUGs are regularly carrying out thinning operations as stipulated in their operational plans, in order to maintain healthy tree stock. Various studies that combine the interpretation of aerial photographs, remote sensing and geographical information systems (GIS) suggests that the status of these forests has been significantly improved, both in formally managed community forests as well as informally managed forests by local people in the Middle Hills of Nepal (Awasthi et al. 2002, 503; Tachibana and Adhikari 2009, 127; Jackson et al. 1998, 210; Gautam, Webb, and Eiumnoh 2002, 63; Gautam and Shivakoti 2008, 159).

Although Nepal has been at the forefront of experiments with community-based forest management, the sustainability of the CF program came under question after the onset of the Maoist insurgency in 1996 and continuing armed conflict over the following decade. In the case study district of Kavrepalanchok, out of eight Range Post Offices, seven Range Posts were destroyed by the Maoists during an intense period of armed insurgency. After the destruction of Range Posts in rural areas, most of the forest administration and support to community forest user groups (CFUGs) through the Department of Forest shifted to District Forest Offices (DFO). This seriously restricted service delivery and technical support to CFUGs. However, this study found that CFUGs in all three case study locations continued their forest management activities throughout the conflict

period, despite considerable difficulty and disturbances. Interestingly, CFUGs implemented even more community development activities during the conflict period. In general, the community forestry program in the village is the only official program where people have direct control over resources and have authority of decision making over the use and management of the forest. This is the only programme in the village where people can generate money from CF and have a mandate to invest in forest management as well as in community development activities. The collective management approach adopted by the CF programme and also the relatively fair distribution of benefits as compared to other village development programmes, meant there was little resistance to the community forestry programme even during the conflict period from either of the contending parties as well as within community forest user groups themselves. This situation empowered the CFUGs to carry out even more programmes in the difficult time of conflict.

Households diversified their income sources, and surprisingly, in the three case study locations, mean incomes in surveyed households increased by 11%, 26% and 35% among the lower, middle and upper–income households respectively during the period of conflict. Overseas employment has emerged as a new source of household income during the period of conflict, especially among middle and upper-income households. However, low-income households could not secure income from overseas employment as they lacked the initial capital investment required for such opportunities, including the payment of recruitment fees for overseas placements. Improvement in living standards for these households was to a larger extent dependent upon improved forest conditions.

This study confirms that the governing mechanisms of state agencies, including the Department of Forests, became dysfunctional during the period of armed insurgency, as the majority of rural areas beyond district headquarters were under the control of the Maoists. Nevertheless, this study did not find a significant negative impact from the intense armed conflict on CFUG governance. Despite all the difficulties and challenges, the governance structures of the local CFUGs were largely stable and forest management activities were carried out more or less normally. CFUGs were in fact in a very difficult

situation as they were targeted by both of the conflicting parties if they did not cooperate with them. Nonetheless the CFUGs have survived as a vibrant self-governing institution and have maintained reasonable access to forest resources to satisfy the subsistence needs of local people within these communities.

This research did not find significant differences in the actual governance arrangements of community forests, regardless of whether the CFUG was under the direct influence of insurgents, security forces, or neither of these contending parties. Instead it was found that the community-based forest resource governing institutions had the ability to overcome the pressures arising from the armed conflict, because of the resilience and adaptive capacities of the CFUGs. The community forest program is deeply rooted in the minds of the local people and has their popular support. Moreover, the governance structure of CBFM is widely regarded as transparent, and locally directed. It was found that whenever there was interference in community forest governance matters, either from the state agencies or the Maoist rebels, CFUGs resisted the pressure, adapted to the changing situation, and carried out dialogue with government agencies as well as with the Maoist insurgents, convincing them that CF activities should continue regardless of the conflict. As insurgents also needed shelter and support from villagers in their struggle against the government, they could not force the CFUGs to dismantle community forest management practices in these villages. Similarly, the government was also responsive because they wanted to win the support of the people in their fight against the insurgency and minimize the Maoist influence over the CFUGs.

As a broad based community organization, CFUGs were able to bargain and maintain dialogue with both of the struggling parties as they sought support from the local people. Networking carried out by the federation of CFUGs (FECOFUN) helped them to communicate their viewpoints and bargain with the contending parties during the conflict, including at the national and international levels.

This dissertation supports the argument that community-based management depends upon vertical linkages across levels of organization (including regional,

national, and international) that facilitate cross-scale communication. This helps in building capacity for self-organization and learning, and ultimately enhances the resilience of the social-ecological system (Berkes and Jolly 2001; Tompkins and Adger 2004; Fabricius et al. 2007). Such spaces of engagement create different networks, which typically provide access to power and representation and augment the resilience capacity of these communities (Tompkins and Adger 2004). Further, this study's findings reinforce the argument that in comparison to centralized institutions, those institutions which are based at the grassroots level, and which are able to build popular support, participation and a sense of ownership among local people and function on democratic principles, are more resilient, have more bargaining power, and have an adaptive capacity to cope; even during a period of political upheaval (Tompkins and Adger 2004; Fabricius et al. 2007; Berkes and Jolly 2001). Scholars argue that the resilience of communities can be increased through policies and incentives which empower them to strengthen collaboration and networks to adapt and cope with the challenges created by conflicts and other socio-ecological challenges (Fabricius et al. 2007). This study suggests that if resources are managed by self-governing institutions with extensive authority over decision making and resource use delegated by the state, it is more likely that these institutions will be able to cope, adapt, change and absorb shocks created by external forces.

This study concludes that the new decentralized mode of community-based forest co- governance was instrumental in creating a sustainable resource management regime in the Middle Hills of Nepal. It supports other empirical studies indicating that common pool resources (CPR) can be managed sustainably and efficiently through local self-governing institutions, given supportive policies within a nested governance regime (Sneath 1998; Ostrom and Gardner 1993, 102; Ostrom 1994, 1990; Berkes and Farvar 1989; Jodha 1986, 1169; Ostrom 1992, 10; Bromley and Cernea 1989, 9; Feeny et al. 1990, 61; Bray and Klepeis 2005, 214-15; Ostrom 2005, 257; Mckean 2000, 50). It is evident that neither market mechanisms nor the centralized command and control bureaucratic administration were able to halt the degradation of natural resources in Nepal's case, where massive deforestation occurred after the nationalization of forests (Lockwood et al. 2009, 3; Dietz et al. 2002, 25; Korten

1987, 1; Dietz, Ostrom, and Stern 2003, 1910). It is also now clear that local users of degraded resources are not always trapped in a situation from which they cannot return (Ostrom 1999, 530). Evidence indicates that a wide variety of adaptive governance practices involving multiple actors at diverse levels around the world have been successful in the sustainable management of natural resources (Dietz, Ostrom, and Stern 2003, 1910; Ostrom 1999, 530).

The present case studies demonstrate that these Nepalese forest communities proved able to overcome external threats to local institutions and resources. The new approach to forest governance has been found viable and successful in sustaining local ecological conditions, as well as enhancing livelihoods of the forest dependent communities. There has been debate and skepticism regarding the mutuality between social and environmental outcomes of community-based natural resource management regimes (Kusters et al. 2006; Agrawal and Redford 2006, 32; Naughton-Treves, Holland, and Brandon 2005, 219; Koontz and Thomas 2006, 113). However, this study suggests that if the central government devolves powers of decision making, rights and responsibilities regarding natural resource use and management to local people with appropriate support and within fair and accountable governance parameters, as seen in the community forestry program in Nepal, they can improve social and environmental outcomes together, rather than regarding one as a trade off against the other. Nonetheless, practitioners and scholars need to be careful in generalizing any simple model of governance as a one size fits all panaceas. In the context of complex human-environment interactions, outcomes entirely depend on the dynamic between the knowledge, interests and organizational capacities of resource users, the legitimacy and effectiveness of articulations within the governance system, and the nature of the resource (Ostrom, Janssen, and Anderies 2007, 15176; Meinzen-Dick 2007, 15205; Ostrom 1992, 256).

Various studies conducted in the past on community forestry indicate that the success or failure of these programs is largely a site specific phenomenon which depends on a range of factors, including the ecological, social, and economic context of the particular community or user group, and the extent to which the program is institutionally able to guarantee rights and benefits and improve the

capability of its members to respond to changes. Certain factors influence the success of community based resource governance outcomes (Agrawal and Chhhatre 2006, 164). Ostrom proposes eight design principles as essential elements or conditions that enable resource governing institutions to achieve sustainable management of CPRs (Ostrom 1990, 90)[146]. The design principles proposed by Ostrom should not be understood as a blueprint for the successful performance of the self-organized CPR institutions. However, a system of governance that follows these principles is likely to be more successful; given the ability to adapt, learn and change according to changes and disturbances in the social, economic and ecological system over time (Ostrom 2005, 257). Researchers in this field have concluded that community-based co-management of natural resources may not be successful in the absence of the following conditions: effective democratic structures and secure and clearly defined tenure and access rights and responsibilities of forest users (WRI 2005, 55-57; Bromley and Cernea 1989, 22; Wade 1988, 217); supportive laws and regulations and participatory decision making systems (Fiszbein 1997, 1040; The World Bank 2008, 162; WRI 2005, 55-77; Blair 2000, 35; Ginther 1995, 157; Tolentino 1995, 141; Mayers, Bass, and Macqueen 2002, 3); accountability of decision makers to resource users and to wider authorities (Ribot 2002a, 1; Agrawal and Ribot 1999, 2); adequate financial resources (Fabricius and Collins 2007, 83; Fiszbein 1997, 1040); and effective monitoring, fair enforcement arrangements, and institutional and capacity development at local, regional and national level (Agrawal, Chhatre, and Hardin 2008b, 1462; Shimizu 2006, 31; Ribot 2002a, 6; Bowling and Maginnis 2003, 1). In addition, forest governance systems that address the issues of equity, power sharing and empowerment of different socio-economic groups, and the participation of disadvantaged sections of the community in decision making processes, have greater chances of success (Tucker 2010, 700).

[146] Ostrom's work mainly focused on how communities and societies interact with surrounding natural resources systems by developing a diverse range of self governing institutions. She has argued in her famous book "Governing the Commons" that certain "design principles" are essential for the success of CPR management. Throughout her research she has emphasized that neither state control nor market mechanisms alone are sufficient for the sustainable management of common pool resources (CPRs), rather it is communities and societies which have the solutions to the problems of managing collective resources (see chapter 2 for further discussion).

These case studies support the argument that decentralization and nested devolution of resource management authority and responsibility to local communities may be one of the most viable approaches to sustainable natural resource management.

Policy Recommendations

Despite the notable success of CF programs in Nepal, there is still concern about the extent to which decentralization and devolution of power and authority will ensure equitable distribution (Potter 2008, 23; Larson and Soto 2008, 231; Kanel and Niraula 2004, 11). The present study found that the involvement of women and socio-economically marginalized sections of the community in decision making bodies (particularly in higher-level executive posts of CFUG such as the chairman, secretary or treasurer) is not yet satisfactory, although some progress has been made on this front. In many cases, key leadership positions were captured by people from higher castes and local elites. Scholars argue that the socio-economic profile of forest users affects participation in CFUG activities (Adhikari, Di Falco, and Lovett 2004, 254-55) with levels of participation largely determined by the amount of benefit received from community forest by disadvantaged groups (Maskey, Gebremedhin, and Dalton 2006, 261). Evidence from these case studies suggests that it should be possible to build a virtuous circle by expanding participation and benefits for disadvantaged groups. If community-based forest management is to be seen as an alternative to the centralized control and management of forest resources on the one hand, and privatization on the other, CFUG institutions have to work toward greater fairness with respect to representation in decision making forums and fairness in benefit distribution. In terms of gender representation in decision making bodies, in recent years (since 2000), some CFUGs have adopted a policy of allocating a certain percentage of the CFUG executive committee posts to women and people from lower socio-economic strata. Since then, there has been a rise in the representation of women and marginalized sections of the community in community forest executive committees. The major stimuli for the changes in policy can be attributed to pressure from the Maoists for radical political and social reform, the focus on second generation issues in community forestry

highlighted from research, and the realization on the part of government and donor agencies of the need to address these issues urgently. Despite the success of CF programs in restoring forest cover and improving the bio-physical environment, the human development needs of disadvantaged CFUG members are not yet satisfied (Kanel 2008, 273). In the initial phase of the CF program, CFUGs placed more emphasis on the protection of forests; now those CFUGs whose forests are in a suitable condition to provide timber are engaged in timber sales. Income generated from timber enterprises has been invested primarily in infrastructure development.

The community forest has great potential to generated income and employment opportunities at the local level, through sustainable management of community forest resources. Community-based forest management may be most effective when it is seen as a means of poverty alleviation and overall livelihood improvement for the rural poor. To date neither state forest policy nor CFUGs have paid sufficient attention to devising and implementing pro-poor programs. One of the challenges in the future, therefore, is to determine how benefits derived from the management of CF can be used to address rural poverty and enhance sustainable livelihoods for the poor (Gilmour, Malla, and Nurse 2004). The mechanisms of benefit sharing, and the development of policies and programs that best suit and address the underlying inequities in decision making and livelihood options, must be analyzed and programs formulated accordingly. Efforts to ensure fair access to forest products have not solved the problem of a widening gap between haves and have nots within forest communities in Nepal. Therefore, there is a need to devise special programs to improve the socio-economic conditions for those people who have least benefited from programs to date. Deeply entrenched social and economic differences need to be addressed in order to make the CBFM more inclusive and equitable.

Skill- and capacity-building have been found to be critical to the success of community based co-management initiatives. CFUGs have to carry out various activities such as forest management (annual plan preparation and implementation, forest inventory preparation, thinning, pruning, singling, and fire control) and governance activities (community mobilization, forest products

distribution, networking, record keeping, financial management, monitoring, reporting, and imposition of fines and penalties). Moreover, transparency and accountability in implementing programs remains a challenging task, particularly as income-generating programs are implemented. Local CFUGs have human resources, traditional skills and knowledge. However, their capacities may not be sufficient to address the existing challenges and future development of community forestry. Technical and capacity-building training for CFUGs has been implemented in districts such as Kavrepalanchok, which possess donor-assisted projects. However, districts without projects have very minimal budgets to carry out such activities. All CFUGs in the case study sites felt that they require the continuation of capacity-building programs from government as well as from donor agencies, in order to improve their capability to implement pro-poor oriented forest management policies in these villages. It should be understood that improving and strengthening governance mechanisms of the CFUGs for better livelihood security is a long term process where government and donor agencies can play a catalytic role in supporting CFUGs through policy and legal backing as well as providing them with needed technical and financial help. The dependency of the CFUGs upon outside organizations may gradually decrease when they are able to earn enough income through the proper management of community forest resources and also through enhanced governance processes.

The 1993 Forest Act and 1995 Forest Regulations have provided extensive authority of self-governance to local CFUGs. Community forestry programs have become popular among forest users, mainly because of the legal framework and policy support provided by the government to local communities to govern and enforce their local rules of forest resource management. However, the government's commitment towards community forestry has not been unequivocal or stable. For example, government decisions to change taxation policies on community forest products, especially during the late periods of conflict, were challenged by FECOFUN. In 2000, when the insurgency was at its peak, the government of Nepal formulated new Forest Sector Policies, with a provision that 40% of the income earned from the sale of surplus timber from CF

in Terai[147], Siwalik and Innner Terai[148] would be taxed as a royalty (this was formerly 10%). In addition, the government no longer hands over large blocks of forest in the Terai region to community forest user groups. Rather, these forests are now intended to be managed through the joint collaboration of local users, local political bodies, and government; 75% of the income from this collaborative forest management will go to the government treasury, with the remaining 25% to be shared between users and local bodies. These new policies prepared by the government were motivated by two considerations. Firstly, commercially valuable natural forest in the Terai region which had already been handed over to communities, or was in the process of being handed over as a CF, and which had significant potential to generate cash income, could be exploited by the community for financial benefits without the government receiving any substantial royalties from the sale of timber. As the local community did not devote considerable time and energy to improving the condition of the forest (unlike in the case of the Middle Hills communities), the government view was that the money generated from the sale of timber should not be given solely to the forest community. Secondly, as most of the countryside was under the control of the Maoists at the time of the decision, the money generated from the sale of timber in the Terai region was likely to go to the rebels and may be used to fund the insurgency. Many argue that this change in the taxation policy was not justified, because there was no consultation or discussion with the CFUGs and their representatives before its adoption. The government's unilateral decision gave communities the impression that the government still wanted to assert control over the governance activities of the community forest, despite almost three decades of successful community-based forest co-management experiments. FECOFUN challenged the government decision in the courts, and the Supreme Court of Nepal nullified the decision (Kanel, Poudyal, and Baral 2005, 72; Kanel and Acharya 2008). Although the government failed in its bid to impose the 40% tax on community forest, , so it proceeded to collect the tax though amendments to the finance ordinance. However, with increasing protests from FECOFUN and CFUGs in 2003, the government revised the Finance Act

[147] The southern edge of the Siwalik range, below 700 meters MSL, and also known as the lowest range of the Himalayan foothills, is classified as the Terai region.
[148] The low valleys in between Churia hills to the north of the southern plains(Terai) and Mahabharat range are called "Duns" or Inner Terai

with a provision for collecting only 15% tax on the sale of surplus timber from CFUGs, and only for two valuable commercial tress species in the Terai (Kanel, Poudyal, and Baral 2005, 72).

The above account suggests that if the government of Nepal wants the community forestry program to flourish and improve the socio-economic condition of rural people, it must show its commitment through systematic requirements for extensive consultation with forest users before changes in community forestry policy and legislation are introduced.

Although the community forests in the villages in this study have reached a stage where commercial exploitation is viable, CFUGs are still lacking with regards to maximizing benefits and creating employment opportunities to local people. Expanded opportunities for commercial development of forest resources, however, include the threat of renewed over-exploitation. CFUGs lack the skill, capacity and capital required for the scientific management of community forests, particularly if put under the stresses of engaging with external markets in order to expand employment. CFUG members admit that the employment opportunities generated by CF activities are still not sufficient, and that wages are insufficient to raise CFUGs members of lower socio-economic strata out of poverty. If scientific and sustainable forest management practices are adopted, there is a greater possibility that CF can act as a vehicle for poverty alleviation and socio-economic transformation of forest dependent communities in Nepal. In this regard, government – especially the Department of Forest – can play a facilitating and supportive role in strengthening CFUG capabilities in sustainable forest management and forest-based industry development. The Department of Forest will be most effective when it devises a simple and clear-cut policy on the commercial exploitation of community forest resources, based on scientific research and forest surveys.

This study suggests that CFUGs have played a significant role in conserving natural resources and continued their governance role more or less as usual throughout the conflict period, which is surprising to outside organizations. The lesson learned from this study suggests that local level governance structures led

by the local community can prove viable institutions and could have a greater role in sustainable natural resource management initiatives. Taking advantage of such governance mechanisms and structures present at local level, government should encourage, facilitate and provide support to CFUGs in the post-conflict situation in order to strengthen the community-based forest management initiatives as a viable option for sustaining institutional innovation as well as mainstreaming such governance models in overall government development endeavours. It can be concluded that such governance mechanisms can minimize the impacts of conflict at the village level, an insight that highlights the feedback effects of good governance practices in natural resource management.

It can be concluded from this study that the Community Forest program has not been able to address the issues of equity, poverty alleviation and livelihood improvement for the poorest sections of the community to the extent possible. The utilization of community forests to bring sustainable socio-economic benefits to the rural poor is still a challenge. However, in comparison to centralized systems of forest management, the community-based forest co-management approach appears more progressive. In Nepal, CFUGs have proved themselves to be resilient institutions over a decade of political conflict, and are continuing to evolve and address emerging issues in community forest management.

APPENDICES

Questionnaire for Household Survey

Political Conflict, Community Forest Governance and Local Livelihoods in Nepal

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DISCLAIMER

Participation in this survey is entirely voluntary and while the study would greatly benefit from your participation, we respect your right to decline. You can choose not to respond to any questions or to withdraw from participation in this survey at any time during the interview.

Appendix A

Questionnaire for Household Survey

Kavrepalanchok District, Mid Hills Region, Nepal

Name of Village Development Committee (VDC):

Name of Village: Name of CFUG:

Household number: Date:

PART A

I. About Household

(Please circle the answer where applicable)

1. Age of respondent (household head) -…….

2. Sex: Male ☐ Female ☐

3. Household size: …….

4. Education status of household head: …….

5. What is your primary source of income? ……..

6. Do you own a house(s)?

Yes ☐ No ☐

7. If yes, types of house (or other dwelling)?

……

If more than one house specify the type and place:…….

8. Do you own agricultural land?

Yes ☐ No ☐

9. If yes, total land area (in Ropani?

Irrigated land (khet)…….

Rain fed land (Tari) ……

Upland (Bari)…… ……

Private forest (kharbari)……

Share ……

10. If you do not own land, do you rent/share crop land?

Yes ☐ No ☐

11. What is the source of drinking water for your household?

Spring ☐ Well ☐ Stream ☐ Piped water ☐

12. Do you have electricity?

Yes ☐ No ☐

13. Do you have a telephone?

Yes ☐ No ☐

14. Do you own any of the following means of transportation?

Bicycle ☐ Motorbike ☐ Jeep ☐

15. Do you have?

Radio ☐ Television ☐

16. Do you have enough farm equipment[149]?

Yes ☐ No ☐

17. Did you experience food[150] shortage in the past 10 years?

Yes ☐ No ☐

18. If yes, how frequently compared to the previous decade and how many months do you have shortage of food on average in a year?

…….

19. How do you cope in times of food shortage?

---

20. Did you borrow money in the last 5 years?

Yes ☐ No ☐

21. If yes, where did you borrow money from?

Bank ☐ CFUG Fund ☐ Money lender ☐

Relative ☐ Friend ☐

[149] Farm implements refer to tools for agriculture, tools of trade

[150] Food refers to staple foods like rice, corn, wheat, millet grown in farmland and used for household consumption

22. What was the reason for borrowing money? ----------

23. Number of livestock/poultry owned by household?

Buffalo …….

Cow …….

Ox ……

Goat/sheep ……

Pig ……..

Chicken …….

24. What is your major source of household energy (cooking, heating)?

Fuelwood ☐ Gas ☐ Electricity ☐

PART B

I. Community forestry and livelihood strategies

1. Are you a member of a CFUG?

Yes ☐ No ☐

2. If yes, do you have to pay an annual fee for being member of CFUG?

Yes ☐ No ☐

3. If yes, how much money do you have to pay annually to become CFUG member?

---

4. Do you regularly participate in CFUG assembly meetings?

Yes ☐ No ☐

5. What are your reasons for involvement in community forestry?

……..

6. Did you or any member of your household serve on a CFUG committee?

Yes ☐ No ☐

7. If yes, in what position? What period?

……..

8. Have you ever experienced being disadvantaged by institutional arrangements of CF?

Yes ☐ No ☐

9. If yes, how and what are the shortcomings?

---

10. How does CF contribute to your family's livelihoods and household income? Give examples

---

II. Forest Products collection by households before conflict[151] and during conflict[152] (annually)[153]

1.	Forest Products collection and use		Quantity collected/annum		
	Forest product type	Unit	Before conflict	During conflict	Remarks
i.	Timber	Cu.ft.			
ii.	Fuel wood	Bhari			
iii.	Tree fodder	Bhari			
iv.	Grass	Bhari*			
v.	Leaf litter	Bhari			
	Leaf for making plate	Mutha*			
vi.	Binding material	Bhari			
viii.	Medicinal plants	Kg.			
ix.	Thatch grass	Bhari			
x.	Wild fruits	Kg.			
X1.	Wild vegetables	Kg			
xii.	Others				

III. Forest Products used by households before conflict[154] and during conflict[155] (annually)[156]

2.	Forest Products collection and use		Quantity use/annum	Remarks

[151] Before conflict refers to the period before the onset of Maoist insurgency i.e. 1996
[152] During conflict in the context of this research refers to the period between 1996 - 2006
[153] Recall method will be used to collect information
**Bhari= Head load* *Mutha= Bundle*

[154] Before conflict refers to the period before the onset of Maoist insurgency i.e. 1996
[155] During conflict in the context of this research refers to the period between 1996 - 2006
[156] Recall method will be used to collect information
**Bhari= Head load* *Mutha= Bundle*

	Forest product type	Unit	Before conflict	During conflict	
i.	Timber	Cu.ft.			
ii.	Fuel wood	Bhari			
iii.	Tree fodder	Bhari			
iv.	Grass	Bhari*			
v.	Leaf litter	Bhari			
	Leaf for making plate	Muth*			
vi.	Binding material	Bhari			
viii.	Medicinal plants	Kg.			
ix.	Thatch grass	Bhari			
x.	Wild fruits	Kg.			
X1.	Wild vegetables	Kg			
xii.	Others				

3. Do you sell forest products (FP) or non-timber forest products (NTFP) collected from community forest?

Yes ☐ No ☐

4. If yes, what is the annual income from the sale of FP and NTFP?

Forest products……../annum

Non-timber forest products ……/annum

III. Livelihood strategies and on farm household income/annum[157]

1.	Livelihood portfolio	Before conflict	During conflict
		Annual income[158](Rs.)	Annual income(Rs.)
i.	Staple Crops		
	a. Rice		
	b. Maize		
	c. Wheat		
	d. Millet		
ii.	Vegetables		
iii.	Fruits		
iv	Milk/milk products		
v.	Goat/Sheep		

[157] Recall method will be used to collect information

[158] Income refers to cash income derived from the sale of farm production excluding domestic consumption.

vi	Chicken		
vii.	Egg		
vii.	Pig		
viii.	Non timber forest products(NTFPs)[159] Specify……		
x.	Sale of fuel wood/timber		
xvi.	Others		

IV. Source of non-farm household income (Please tick the appropriate box)

S.No.	Livelihood portfolio	Before conflict Annual income (Rs.)	During Conflict Annual Income (Rs)
i.	Salaried Services[160] within Nepal Specify where?.....		
ii.	Remittance(outside Nepal) Specify where?.....		
iii.	Self employment (Contracting/Business/trading)		
iv.	Pension		
v.	Farm wages (labouring)		
vi.	Non-farm wages		
vi.	Others(specify)		

PART C

I. Livelihoods Impact Assessment

1. To what extent was community forestry (CF) sustainable and effective in providing livelihood support prior to 1996? And what overall impact did the political instability and governance crisis had on CF and on your livelihoods during the period between1996 and 2006.

[159] Non-timber forest products(NTFPs) refers to medicinal and aromatic plants, wild fruits, vegetables(roots/shoots), honey, binding material, roofing material etc

[160] Services in Nepal refer to employment in either government, non-government, private or other business firms.

PART D

I. Coping strategies by households between 1996 and 2006

1. Did you or your family experience any impact on your livelihoods as a result of the conflict? Did this result in loss of income?

Yes ☐ No ☐

2. If yes, explain, what were the key problems/constraints and challenges you encountered due to the political situation?

……

3. Explain briefly how you coped with shocks and what were the strategies you adopted and activities pursued to manage shocks during the time of conflict?

……

4. What were the livelihood strategies and portfolio you adopted in response to these stresses?

……..

5. Did any agency/institutions/individual played a significant role in mediating and providing livelihoods support/rehabilitation during the time of conflict?

Yes ☐ No ☐

6. If yes, which institutions (local, district, national, international) and who played an important role during the time of conflict, making the livelihoods functional? And what were these supports?

……..

7. Did CF play a role in assisting households in this community to cope with the shocks and stresses resulting from political conflict and crisis of governance?

Yes ☐ No ☐

8. If yes, what role did it play? Please explain in detail with examples?

8. What suggestion do you want to make to the outside community for improving livelihood security and improving *sustainable* management of CF?

"Thank you for your support"

PART E -

I. Semi-structured questionnaire for Community Forestry User Group (CFUG) Committee Chairman, executive members, village leaders, NGOs Workers, Political Representatives, District Forest Officials

1. What role does community forest (CF) play in the livelihoods of the people in rural areas? Are there any significant changes in the quality and quantity of forest after implementation of CF programme? Can you provide some examples?
2. How fair is the access to forest products and benefit sharing among CFUG members? Does this vary significantly between communities? How secure are they? How does this differ from the period before the Community Forestry program was initiated?
3. What are the priorities (primary uses??) of different socio-economic groups (poor, middle class, rich, and women) in relation to CF?
4. Is there any conflict among different social groups over the access to, and benefit sharing of community forest resources? If yes, what are major issues?
5. What have been the effects of political conflict over the last ten years on the management of CF (forest governance)[161]? How has this affected access to forest products, benefit sharing and sustainable management of CF?
6. How has the conflict affected the livelihoods of different social groups of people in the community? Who is affected most by conflict and in what ways?
7. Explain how the management structure of CFUG works at local level? How are CFUGs formed? How are the leaders selected?
8. How are decisions taken in the CFUG meeting? And who decides the management of CF and benefit sharing? [[Can you give a more explicit example of benefits shared that you could get some hard data on??]]
9. How did you find the role of the CFUG in the empowerment of women and disadvantaged groups? Is there any substantial difference in empowering women and disadvantaged group of people before 1996 and were there any changes during the period between 1996 and 2006?
10. Are there any programs especially designed for poor and marginalised people as part of the CF program? If so, what are these programmes and how are they are benefiting these target groups?

[161] CF governance refers to sustainable use, management, community control over CF resources (ownership), right to exclude non-members, wise and equitable use of CF resources and right of decision making, networking with similar interest groups, and implementation of various activities according to community forest operational plan.

11. What were the main constraints on the management of CF, access and benefit sharing encountered by local communities during the period of conflict?
12. How did CFUGs manage to overcome shocks and stresses which resulted from conflict?
13. What outside assistance and support was available to enhance livelihoods of rural people in time of conflict? How effective was this?
14. What was the impact of the conflict on the operation of community forestry user groups? And how did the CF programme operate before and during the conflict - eg:- what rules apply to community forest access and use? What groups set these rules and who administered these before and during the conflict? What sanctions apply to breaking rules on forest access or use? Are all households involved in the decision making processes? Are there any special provisions for access/ use by women and disadvantaged (poor)? To what extent are they involved in decision-making?
15. What is the level of participation of women and disadvantaged groups in CF activities and what could be done in order to increase the participation of poor and disadvantaged groups (DAGs) in CF activities?
16. Do you think the poor, women and disadvantaged groups benefited from CF programme? If yes, How? If not, what is lacking and what can be done to improve their participation and benefit sharing?
17. What are the household and community benefits obtained so far from CF? Provide some examples.
18. Was the CFUG able to act as a local resource management institution and have power of bargaining with outside agencies? If yes, describe the role it played before 1996 and between 1996 and 2006?
19. What was the role of government (both local and national) in supporting the community forestry activities during conflict? Was the government support to CF activities as active as it was before the onset of conflict?
20. Were there any environmental NGOs and CBOs in your villages working before the onset of political instability? If yes, were they working in the same area during the period between 1996 and 2006? What was their role? Were there direct benefits to the community in terms of expanded livelihood opportunities either forest- based or non-forest based or of better forest management?
21. How was the access to market for selling FP/NTFPs, buying agricultural inputs, consumer products and market for agricultural products before 1996 and between 1996 and 2006?

22. What was the overall impact of the conflict on local infrastructure, service delivery, security and livelihoods?

II. Semi-structured questionnaire for senior forestry officials working in the Department of Forest (DOF) and Ministry of Forest and Soil Conservation (MFSC), Community forestry experts at national level

1. Can you briefly elaborate on the contribution of community forestry to the livelihoods of people, environment conservation and over all socio-economic development at local and national level?
2. Are there any significant changes in the livelihoods of rural people after launching of the CF programmes?
3. What was the impact of the decade long political instability on the CF programme at national and local level? Would you please provide some documentary evidence on these impacts?
4. What kind of strategy especially from the Ministry of Forest and Soil Conservation (MOFS) and Department of Forest (DOF) were adopted in connection with CF programme during the period of insurgency? Was there any significant change in the policy and programmes operating during this period? If yes, what are they?
5. In your opinion what kind of policy, programme and strategy should be adopted to strengthen and improve the community forestry programme in the post conflict situation?
6. Various studies indicated that some section of the community especially the poor, women and marginalised group of people are not benefiting much from CF as compared to wealthier and well-connected people. Does government have any policy and programmes to address these issues? If yes, what are they?

"Thank you for your support"

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